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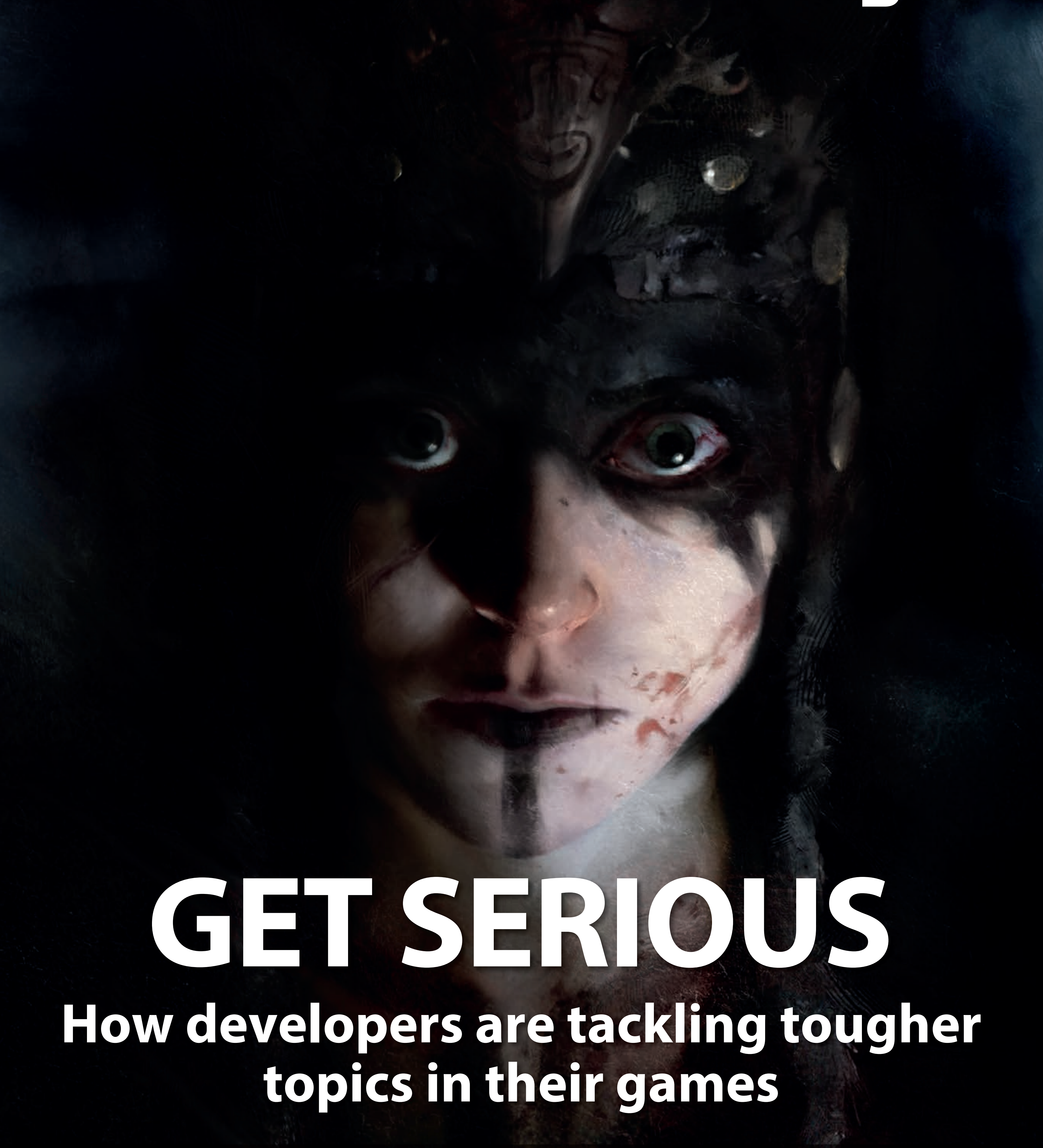

GET SERIOUS

How developers are tackling tougher topics in their games

INSIDE ▸ APPLE TV ▪ STAR CITIZEN ▪ 30 YEARS OF RARE ▪ ANALYTICS ▪ MONETISATION ▪ STINGRAY

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ISSUE 165 OCTOBER 2015

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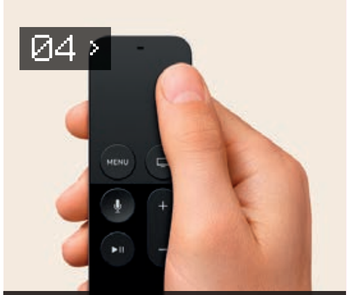
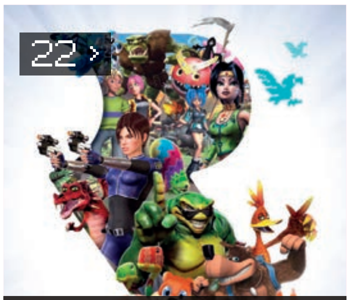
IT'S TIME TO GET SERIOUS

We speak to the developers behind Beyond Eyes and Hellblade about how they tackle sensitive issues within their titles – and why other devs should consider doing so themselves



APPLE TV
Do devs need it?



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30 years of the UK studio

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EDITORIAL

EVERYTHING IS FAIR GAME

ANYONE THAT WATCHED last month's BBC docu-drama *The Gamechangers* was no doubt frustrated that yet again our medium was depicted as an excuse to virtually steal cars and slaughter people.

We all know people who are convinced that *Grand Theft Auto* or perhaps *Call of Duty* are representative of all video games. Try as we might, it's difficult to explain that many games have advanced beyond this: from the touching storyline of *The Last of Us* to the creativity unlocked by *Minecraft* and *Super Mario Maker*.

Fortunately, there is an increasing number of developers brave and bold enough to build titles around more sensitive issues. Mental illness, blindness, cancer, the migrant crisis, sweatshop workers, asylums – all of these have been explored through interactive entertainment, primarily at the hands of indie devs. Any why not?

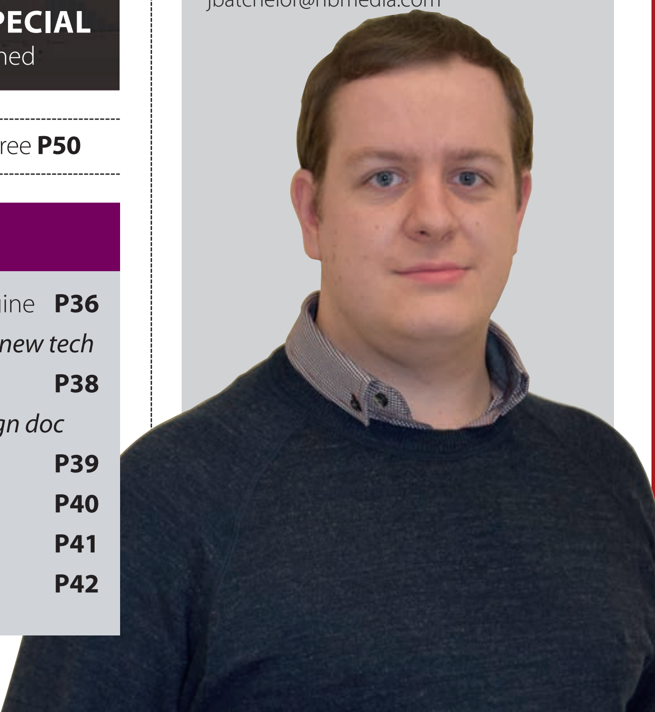
The 'are games art?' debate is irrelevant: yes, they are. And as such, they should be able to tackle any topic that other art forms are praised for. That means everything. Literally everything.

Providing it is done with care, respect and thorough research, there should be nothing to stop devs trying to express new perspectives on the world's most difficult topics, all through the most engaging and impactful medium in existence: video games.

As Radcliffe shouted to BBC viewers, why is it okay for music and film to cover things as fundamental to life as sex, but video games can't?

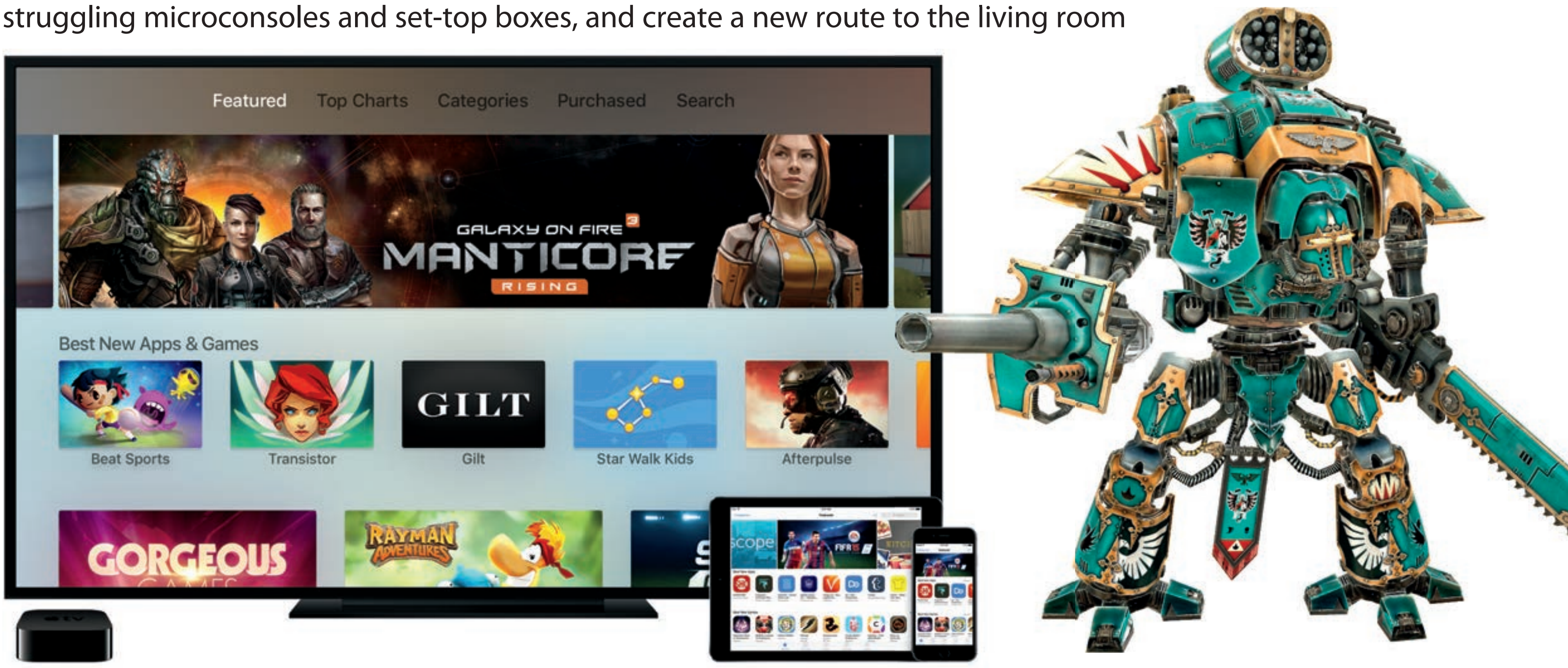
The answer is: it's not. And developers should remember that.

James Batchelor
jbatchelor@nbmedia.com



Do we need the Apple TV?

Developers discuss whether the newest iteration of Apple's living room device can avoid the same fate as past struggling microconsoles and set-top boxes, and create a new route to the living room



by James Batchelor

LAST MONTH, APPLE unveiled the new Apple TV, revamped to offer a broader range of entertainment – now including games. But will this fresh platform have a similar impact to past iOS platforms?

There are certainly plenty of developers already on board, with Apple announcing new titles from Harmonix, Pixel Toys and Hipster Whale during its on-stage presentation, as well as dropping names such as Ubisoft, Disney and Activision through the device's website.

Yet there remains some scepticism around Apple TV. SuperData Research's Joost van Dreunen told *Develop*: "At first glance, it seems to be a great opportunity to developers, allowing them to port games and, ostensibly, expanding the addressable market. But Apple is taking a relatively inflexible stance with regards to what it wants developers to make.

"Similar to the lack of transparency on the App Store, I expect Apple to call all the shots on Apple TV to preserve a particular consumer experience, but thereby also limiting innovation.

"Even with the support of Disney and Harmonix, it is not yet clear whether the Apple TV will be able to position itself as a long-term gaming device."

BREAKING THE CURSE

A lot of this doubt stems from the disparate performance of similar devices in the market.

While there are plenty of streaming devices for video content such as Roku, it is unclear whether products like Amazon's Fire TV have proven to be lucrative for developers. And there is the shadow of troubled microconsoles – most famously the crowdfunded Ouya.

"We all know microconsoles aren't new and neither are set-top boxes," said Pixel Toys co-founder Andy Wafer. "But the new Apple TV does offer developers a way to bring their iOS apps, or at least ones similar to them, to the living room for the first time – something that no other platform can offer.

"In the past, it hasn't been clear to consumers what the benefits of microconsoles really are. They've been seen as underpowered compared to consoles and the content has been lacking. This device is much more than just a microconsole – if you're an Apple user, it offers access to all your iTunes content, your movies, TV shows, music, photos and more."

> ***"It's not yet clear whether Apple TV will be able to position itself as a gaming device."***
>
> Joost van Dreunen

Space Ape COO Simon Hade added: "People are already well served when it comes to TV content. But if Apple puts its full weight behind it, it can overcome the problems seen in the past. It comes down to content, so if they can make the platform compelling for devs then that will come."

Van Dreunen adds that Apple is unlikely to suffer the struggles as past microconsoles because the company has "a much broader offering", as well as the support of heavy-hitters such as Disney and Harmonix.

"Apple also has a substantial install base when it comes to games," he said. "Devices like Ouya and others had none of these, making them much more sensitive to the volatility in the games market."

Mark Knowles-Lee, head of Mind Candy's Candy Labs studio, added: "Streaming boxes are now something many consumers want and because Apple designs and markets its products incredibly well, the mass market will hear about, want and be able to afford Apple TV," he said.

"The new box will undoubtedly establish a beachhead. Success will then be dependant on great games and experiences that make sense for players and fit the 'living room' space. There's a market there – it just needs some killer apps for that audience."

There are some challenges that face potential Apple TV developers. Most notably, the maximum size allowed for tvOS apps will be somewhat restrictive at 200MB.

CHALLENGING LIMITATIONS

However, devs are confident that there will be ways to work around this, while others embrace the challenge of creating something of a high quality within these limits.

"Games can still have a lot more than 200MB worth of content – it's just the initial install that needs to be under that," said Wafer. "Apple TV games will download extra content as and when needed. It means players will be able to keep more games on the device before they need to start deleting them, and that's good for developers, too."

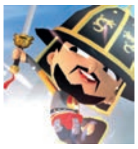
Knowles-Lee added: "Devs should either make small slick apps, or design and architect your game to have a lightweight install and then make use of the 20GB that Apple will host for you."

Hade believes streaming will also be an option, and that

// MEANWHILE ON DEVELOP-ONLINE.NET

Loan stars: How The Games Begin helps devs access tax relief faster
deve1op.net/1PJ0gvl

Pitching like a pro: 13 essential tips from expert Jon Torrens
deve1op.net/1XFrHMc



Duel personality: How Mind Candy is growing latest IP World of Warriors
deve1op.net/1UZwTGC

Left to right: Pixel Toys' Andy Wafer, Rodeo Games' Ben Murch, Inkle's Jon Ingold, Mind Candy's Mark Knowles-Lee and Space Ape's Simon Hade are all intrigued by the new possibilities afforded by the latest Apple TV

future iterations will offer more generous app size allowances. Instead, he posits that the bigger challenge is the new Siri Remote.

Bearing a handful of buttons, a small touch surface and a motion sensor, the device appears to be a successor to the Wii Remote. And while there will be compatible gamepads, Apple has stated that all tvOS games must be playable with the remote.

Inkle creative director Jon Ingold said: "Personally, I love that kind of constraint. It forces you to keep the game simple, it makes the content shine, it means the final result will be very playable by a wide range of people. And it means, at least to begin with, there'll be more new titles and fewer clones. I don't think *Flappy Bird* will work that well, and nor will first-person shooters."

Wafer added: "It might be a challenge to adapt games originally designed for a touch screen or game controller, but new games designed for the Apple TV will make the best use of it, and players who prefer a more traditional input method will be able to use other supported controllers."

Ben Murch, co-founder at Rodeo Games, predicts a lot of initial Apple TV titles will be based on iOS games with poorly implemented new control schemes, adding: "An original concept utilising the remote would be paramount to making an Apple TV title."

> ***"Apple TV is an iPod for the Netflix generation, a product we didn't realise we wanted."***
>
> Jon Ingold, Inkle

For all the limitations, there is some optimism among developers. Several studios even talk of creating new 'living room experiences' that revolve around not only using the new device, but also the Apple smartphones and tablets likely already present.

Ingold expects a "pretty intriguing" mix of casual and console-style games, adding: "Good games for Apple TV will have to be both. You've got to use the larger screen, but a living room is a naturally social environment."

Van Dreunen said to truly succeed as a games device, Apple TV will need to offer better support to developers.

"There is absolutely no reason why Apple doesn't do more for indies," he said.

"Apple has a real opportunity to become the go-to platform. It could certainly afford to reserve $100m to cultivate a unique indie talent pool. This will give Apple a defining edge when compared to Microsoft and Sony."

Even without this support, however, many developers are excited by the possibilities offered by Apple TV.

"It's an iPod for the Netflix generation, a product we didn't realise we wanted," said Ingold. "Apple's magic is to create markets where they didn't exist. Apple TV could be a fresh marketplace free from near-identical games." ■

develop 100

Develop 100: Are you the world's greatest?

THE DEVELOP 100 will return in December for its tenth anniversary – and will rank the best studios from around the globe.

This time, we're building our own ranking system based on three key criteria: revenues raised, review scores and quality, and reputation amongst the industry.

Over the next month, we'll be building this list out using quantifiable data from partners, our own industry analysis, plus feedback from games studios around the world.

This also makes sure we can make a truly cross-platform (and cross-distribution) list, taking in physical and digital activity across console, PC and mobile.

The *Develop 100* was first published in 2005 and is the ultimate ranking of the top 100 games studios on the planet, and an excellent barometer of industry trends and insight.

Since then it has graded and ranked studios around the world based on a variety of metrics and covering different territories and sectors.

For 2015, the list goes back to basics – and will also return to print for the first time since 2011, printed in the December issue of *Develop* and supported with an extensive online and digital campaign.

Want to make sure your studio is in the running? Point your browser towards **www.deve1op.net/1gQBihJ** and fill in the form to help flesh out our database.

The *Develop 100* also represents an excellent opportunity to raise the profile of your studio (whether they are in the listing or not), your brand or service firm.

Don't miss out on a chance to be a part of it: email Charlotte Nangle on **cnangle@nbmedia.com** or Jennie Lane on **jlane@nbmedia.com** or call them on 01992 535 647 to find out more. ■

DEVELOP DIARY

Your complete games development events calendar for the months ahead

AT A GLANCE

OCTOBER 6TH
Rock Band 4
Dust off your plastic instruments – it's time to rock! Again.

OCTOBER 14TH
Games Media Awards
Come meet and celebrate the journalists that write about you.

OCTOBER 21ST
Back To The Future Day
We really need to start working on those hoverboards

OCTOBER 23RD
Assassin's Creed Syndicate
Cor blimey, them assassin blokes is in London, innit (Not real dialogue).

OCTOBER 25TH
The clocks go back
Goodbye daylight, hello months of oppressive darkness.

OCTOBER 31ST
Halloween
An excuse to watch Hocus Pocus. And maybe Nightmare Before Christmas.

DIARY DATES

GAME CONNECTION EUROPE 2014
BUSINESS AREA ENTRANCE

Game Connection Europe 2015
October 28th to 30th
Paris, France
www.game-connection.com

OCTOBER

BRAZIL GAME SHOW
October 8th
São Paulo, Brazil
www.brasilgameshow.com.br

GAMES MEDIA AWARDS
October 14th
London, UK
dopeyokun@nbmedia.com

GAMES FUNDING FORUM
October 15th
London, UK
www.gamesfundingforum.co.uk

GDC CHINA
October 25th to 27th
Shanghai, China
www.gdcchina.com

NOVEMBER

NASSCOM GAME DEVELOPER CONFERENCE
November 5th to 7th
Pune, India
www.nasscom.in/ngdc2015

INTERFACE
November 12th
London, UK
jlane@nbmedia.com

VRTGO CONFERENCE & EXPO
November 12th
Newcastle, UK
www.vrtgo.co.uk

LONDON GAMES CONFERENCE 2015
November 19th, London, UK
ctallon@nbmedia.com

EVENT SPOTLIGHT

INTERFACE

Develop and *MCV*'s interactive content marketplace is back on November 12th with private pitching, games showcase, funding advice and more.

The successful debut of the event in May saw 300 games professionals attend a unique mix of private pitch meetings, conference and public expo with plenty of networking opportunities.

The second Interface moves into a new, bigger venue: St Mary's Church near Baker Street and Marylebone Tube/train stations.

This bigger space accommodates more delegates, extra space for private meetings, a bigger conference, and an expanded expo/showcase area.

At least four new games were signed up by publishers at the May event, and this second event will ensure more studios have the opportunity.

Interface is structured to be as affordable as possible for games businesses of all sizes, with the basic indie expo pass free and indie tickets for the meeting system costing £59 + VAT. Indie game expo spaces are just £199 + VAT and include involvement in the meeting system.

For publishers and larger studios, an expo pass is £20 + VAT, and the meeting system rate is £149 + VAT. Publishers looking to host meetings for the day pay £500 + VAT.

Sponsorship opportunities are also available. Contact Jennie via **jlane@nbmedia.com** or Charlotte via **cnangle@nbmedia.com** to find out more.

You can book tickets via **bit.ly/1P3Oail** ■

COMING SOON

DEVELOP #166
NOVEMBER 2015

- Which publisher is right for you? We look at the biggest indie publishers and the services they offer
- Develop's guide to getting funding

develop 100

DEVELOP #167
DECEMBER 2015

- Recruitment Special: Helping you find that ideal job in games
- Develop 100: We rank best games studios across the globe

For editorial enquiries, please contact jbatchelor@nbmedia.com
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Microsoft

creative england

Microsoft have once again partnered with Creative England to find the best studios and developers in the country to be part of the Greenshoots programme.

Previous participants have gone on to make commercially successful, critically acclaimed games and even secured investment and publishing deals for future titles.

We're offering you the chance to receive up to £50k investment plus expert development and marketing support from Microsoft. Select studios will also get the opportunity to join the ID@XBOX programme along with access to a network of investors and publishers.

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Apply now for your chance to receive up to £50k and create your own Microsoft game

For more information visit www.creativeengland.co.uk/games/greenshoots

Image: VR Karts © Viewpoint Games Ltd

Variable declarations

//COMMENT: BUSINESS

When reality comes crashing into VR

With excitement high around VR, **Joost van Dreunen** considers the next step

Joost van Dreunen says that the studios creating games for platforms such as PlayStation VR (right) have the best chance to define the technology's earliest success stories

TODAY IS THE most exciting moment for virtual reality. Because, right now, virtual reality is perfect.

When Facebook acquired Oculus last year, it set the industry on fire. It provided instant validation to the concept of VR as a feasible platform and entertainment device.

Not too long after, a series of analyst forecasts painted a picture of fantastic growth, ranging from $4bn to a whopping $150bn.

And when Oculus reserved its major press conference to coincide with E3, rather than the Consumer Electronics Show earlier in the year, it became clear that Marc Zuckerberg and Palmer Luckey had decided that interactive entertainment were going to provide the device's killer app.

As an industry, games studios have since been eagerly developing and experimenting with the technology, hoping to catch the full range of benefits that come with being a first mover. According to its most recent annual report, no less than 40 per cent of UKIE's members are currently developing for VR platforms.

This makes for sound strategy. Elsewhere, traditional game development for console has become more risky because of growing marketing and production costs.

And the increasingly crowded mobile games market is losing its accessibility. So, of course, it is exciting to be working on a future platform.

If nothing else, the sheer absence of market data or consumer feedback allows us to work in a comfortable vacuum, where our creativity can run free.

We currently have all of the potential upside and none of the drawbacks of a more mature market as we come up with amazing ideas and spectacular experiences.

FREE REIGN IN VR

But you know, virtual reality isn't perfect. It only seems that way because we, as an industry, need to think of ourselves as perfect.

Our collective ego soars on the notion that right now, as we embark on our journey into virtual reality, the world is ours for the taking. Our creativity can run free in this untouched hyper-real realm of awesome experiences and infinite commercial success.

In virtual reality, we don't have to adhere to competitive market forces, industry patterns, rising marketing costs, discovery issues, distribution problems or franchise restrictions. None of that exists right now. Virtual reality is currently untainted by everything that makes developing for console, PC and mobile so challenging.

When Apple first released its iPhone, recently unemployed designers started to practically print money from the comfort of their kitchen table.

> ***"Design for virtual reality, like all other platforms, will be about overcoming limitations. This is a chance for devs to claim a piece of its promise."***

In this first wave of mobile innovation, a slew of applications emerged that offered experiences or improved functionality for the new device.

Remember, for instance, when the ability to copy and paste on an iPhone was an app you could purchase through the App Store? Not soon after Apple began integrating these intuitive features into its operating system, thereby decimating the market for these initial developers instantly.

The real money on mobile started to emerge as the platform took hold. Rovio and its hit title *Angry Birds*, the posterchild for mobile gaming's success, has been struggling to grow revenues since.

Of course, growing revenues isn't the only hallmark of a company that does well, but it certainly helps offset constantly increasing costs. By innovating on design process, monetisation and multiplayer mechanics, a company like *Clash of Clans* creator Supercell managed to be infinitely more successful than any first-mover.

Don't misread this: virtual reality is an exciting development for the games industry and beyond. But as a platform and a market it will also have limitations. So, too, we must accept games development as an imperfect process.

Design for virtual reality, like all other platforms, will be about overcoming limitations. And those companies that manage to make the two work together well, have a chance to claim a piece of its promise.

Success only counts if it's real, not virtual. ■

Joost van Dreunen is co-founder and CEO of SuperData Research, provider of relevant market data and insight on digital games and playable media.
www.superdataresearch.com

//COMMENT: CHARITY

Can games really change the world?

Playmob's **Joost Schuur** argues the transformative value of games may be longer term

AS VIDEO GAMES have matured over the years, its reach has increased significantly, offering unprecedented opportunities to affect a diverse and global audience.

At the same time, the pace at which the internet can highlight tragedies and injustice in the world has set the stage to use that audience to enact a positive impact on the state of the world. How are games doing this today, and how could they deliver a lasting impact?

In-game fundraising provides the most obvious, short-term opportunity to target gamers who might not otherwise consider donating to a charity. It can help raise funds for a concrete, immediate project and works particularly well when tied to the purchase of a free-to-play item type that the user is already familiar with. While expanding over the last few years, this type of sponsored model is still infrequently used and doesn't allow a charity to establish a lasting relationship with the donor, due to app store or publisher restrictions.

LONG-TERM VIEW

Rather than immediate donations tied to an item purchase upfront, other charities choose to raise awareness of an issue and set the foundation for a longer-term relationship. Provided the publisher is keen on them leaving their game, a charity will have more of a player's attention and space available to highlight their cause on a web page they can control and update.

Even if they can't get them to follow them on social media or get them to subscribe to a mailing list, allowing them to spread their message to people's social circle will further their reach better than individual IAPs.

Such awareness-building may even take alternative game-like forms and not be directly tied to a charity, like the BBC's *Syrian Journey* interactive story about the plight of migrants from a war-torn country.

Playmob's Joost Schuur says charities should work on building long-term relationships with gamers and publishers, rather than just raising funds from in-app purchases

And yet all of these cases are carefully planned projects with a number of dependencies that took time to plan out. Campaigns like this represent a fraction of the $350bn raised for charity in 2014 alone. Donations alone may also not be the only way games can affect change.

I would argue that the most impactful way games can improve the world is by changing longer-term behaviour and mindset. Consider a generation of kids growing up and playing *Minecraft*, collaborating together in a shared world with other players and finite resources. These values will shape character traits that can transcend gaming and lead to a more inclusive approach to the world around them.

A study in the Journal of Adolescent found that kids who play games 'reported higher levels of family closeness, activity involvement, attachment to school and positive mental health'. Game designer Jane McGonigal believes harnessing some 21bn hours of gameplay a week can lead to real world improvements.

Games also strengthen problem-solving skills and reward players for researching new solutions when you're stuck playing them. As players learn the value of seeking out new info, they'll apply it to non gaming issues too, and increase their understanding of the world.

There will always be the need for short term aid and traditional fundraising to alleviate a current crisis, but I believe true change will come from shaping habits that ultimately benefit the world, and gaming can be a part of that. Changing the world starts one gamer at a time. ■

Joost Schuur is a product manager at Playmob and 15-year veteran of the online gaming and game communities. You can follow him on Twitter via **@joostschuur**.

//EXTRA CONTENT ONLINE

"We are so risk adverse in designing games now, it almost feels like it's got pathetic. At the risk of offending anybody, designers can limit themselves."

Charles Cecil on the 80s dev scene

deve1op.net/1Oc1dPr

"We trialled it for three months. And at the end of that period, and canvassing the staff, everyone wanted to remain working virtually."

Why David Rose is ditching the office for a virtual studio

deve1op.net/1UhJRzp

"One of the things we have noticed is the more barriers you put up, the harder time people have to play with their friends."

Trion Worlds CEO: I don't think I'd do subscription games again

deve1op.net/1ED63Ct

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Senior/Lead VFX Artist
Environment Artists – Contract
Graduate Environment Artists

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Rendering Engineer - Contract
Senior Systems Engineer
Senior Tools Engineer
Graduate Engineers

Production
Producer

Design
Game Designer
Level Designer

Audio
Sound Designer – Contract

MULLING OVER MONETISATION
We look at the latest disruptive business models in games
P14

CLOUD IMPERIUM SPEAKS OUT
Is Star Citizen the crowdfunding black hole some people say it is?
P20

RARE LIVES
We look back at the 30-year history and biggest hits of the iconic UK developer
P22

It's time to get serious

Indie developers are taking games into new, potentially controversial territory. **James Batchelor** looks at how these studios handle sensitive and difficult issues in their games and whether we can expect more titles to broaden gaming's remit

DEPRESSSION, MENTAL ILLNESS, blindness, cancer and the migrant crisis. These are not the topics you might think of when first considering what your next game might be centred around.

Yet from smaller indie projects such as *Passengers* to larger-scale productions like Ninja Theory's *Hellblade*, the new wave of what many refer to as 'serious games' have the potential to elevate our medium beyond the realm of slaughtering zombies.

"I don't think books and films should have a free pass to tackle difficult issues while games don't," says Ninja Theory's chief creative director Tameem Antoniades.

"If you're serious about games as a medium, there is no defensible argument that it shouldn't be tackling serious topics. That doesn't mean that all games need to tackle serious issues, of course, but games need to have the diversity to tackle any subject."

Hellblade follows a Celtic warrior suffering from mental illness, but Antoniades insists the game is not a simulator of the condition. Instead, the title is built as a compelling story designed to improve understanding.

Similarly, Italian indie LKA.it's *The Town of Light* hopes to raise awareness of not only the various forms of mental illness, but also the realities of past asylum systems that cared for those who suffer.

"Mental illness is too often treated without respect," the studio's Luca Dalcò says. "Our aim is to make players more aware of this. We tried to avoid representing mental illness like something distant or too oneiric, but like

Hellblade's Senua faces the same struggles as many mental illness patients, a topic Ninja Theory has put extensive research into

Top to bottom: Passengers developer François Alliot and Ninja Theory's Tameem Antoniades

Main: Hellblade is still designed to be a game first, but Senua's condition will add unique depth to the story and the players' encounters

something that we own, that is near us."

Passengers is a Ludum Dare game that explores the ongoing migrant crisis. Players take on the role of a smuggler, judging which passengers he will take into Europe.

"We made this to make players look into the subject of migrants differently," says creator François Alliot adds. "We didn't in any way want to make a documentary, or pretend to have solutions.

"Migrants are seen as a very homogeneous group of people, a crowd only defined by their journey. They're not shown as a collection of human beings, they're a faceless crowd."

Alliot believes the lowering of the barriers to games development has opened more opportunities than ever to create games centred on serious issues.

"There's basically more of everything in today's industry," he says. "More games, genres, players and more diversity among players. It's a crazy explosion but it's really natural that games tend to 'spill' in society and relate to sport, news, education, sexuality and so on."

Dalcò adds: "Games have reached a maturity that will lead us to see more projects like this, especially in the indie space.

"Extensive research is the first step when tackling anything that can be sensitive. With our game, we do not aim to judge or express any opinion on what happened in asylums during those times – we have created a story that tells you, the player, what's happened."

GETTING IT RIGHT

Ninja Theory has also researched its chosen subject matter, working with a renowned psychiatrist and various patient groups to ensure the effects depicted in *Hellblade* are comparable to those suffered in real life.

> ***"There's no defensible argument that video games shouldn't be tackling more serious topics."***
>
> Tameem Antoniades, Ninja Theory

Meanwhile, Sherida Halatoe – creator of summer release *Beyond Eyes* – not only looked at what blind people go through, but also at other previous initiatives to raise awareness of this condition.

"Although the game wasn't designed as a blindness simulator, I felt that as a designer it's my responsibility to do the subject justice," she says. "I've spoken with several legally blind people about their experiences. Most of them used to have some form of sight before.

"I also visited an exhibition that simulates real life situations, together with a blind guide and a white cane you experience walking on the street or buying drinks in a bar in the dark."

Antoniades points out that no matter how much research you do, there will often be "no universal definition of how certain conditions affect people", but there are "common traits" developers should aim for. He also urges devs not to hold back.

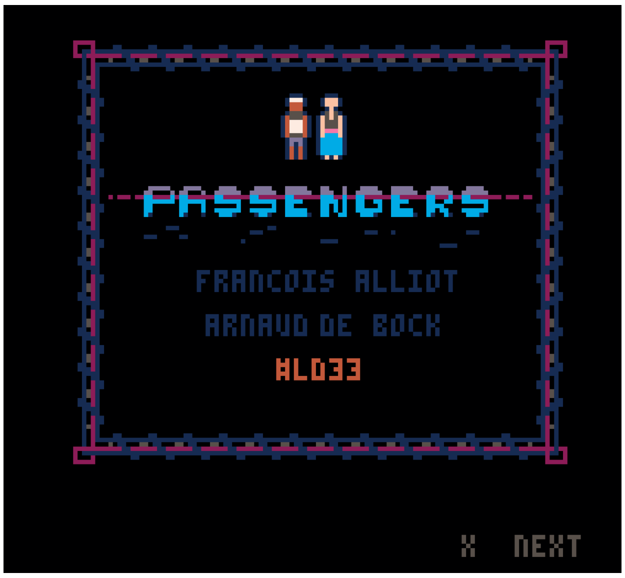
"I don't feel that a subject like mental illness, as universal as it is, necessarily has to be treated with kid gloves and hidden away from view," he says. "That has a negative effect on sufferers.

"According to the people I've talked to, a lot of the suffering comes from the stigma, rather than from the direct experience itself. It comes from the social isolation that results from it. It's not a hopeless situation: patients get treated, recover and learn to live with it. If people understand that, the fear goes away."

REALITY CHECK

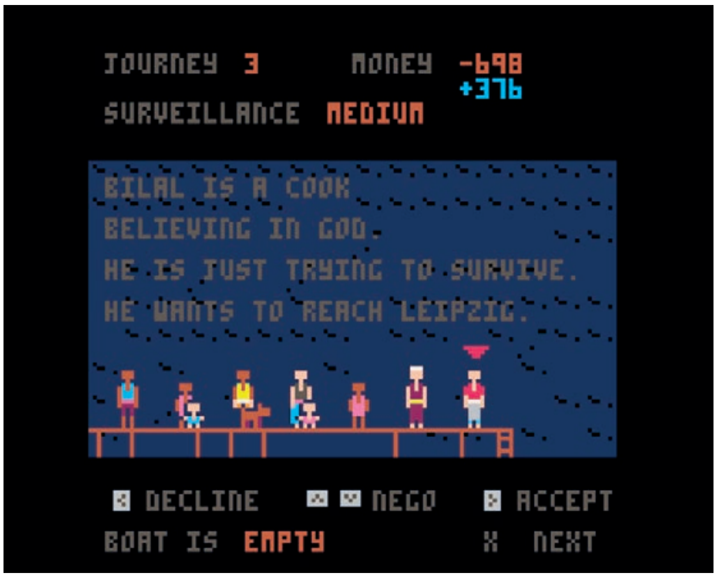
It's vital that the effects of any conditions or the aspects of real-world issues are presented as realistically as possible, rather than glorified for the sake of entertaining the player.

"Some events in *The Town of Light* are disturbing," says Dalcò. "We kept them



PASSENGERS

FRANCOIS ALLIOT
ARNAUD DE BOCK
ALD33



BILAL IS A COOK
BELIEVING IN GOD.
HE IS JUST TRYING TO SURVIVE.
HE WANTS TO REACH LEIPZIG.

Top to bottom: LKA.it's Luca Dalcò and Beyond Eyes dev Sherida Halatoe

Left, from top: The Town of Light sheds light on what happened in asylums of the past without glorifying events, while Alliot's Passengers lets players interpret the migrant crisis in their own way

because those are part of what happened, but we didn't want to use them to promote the game or create sensationalism."

Halatoe adds that another crucial factor is to remember that you are dealing with issues that affect real people.

"Getting the facts straight is only a small part of tackling a sensitive subject," she says. "Making sure players care about the characters is much more important. Give your characters a personality, goals, fears.

"If you create a game about a disability or mental condition, make your characters more than just their condition. Give them a purpose."

Alliot agrees, citing a recent example that failed to do this: "Take the '*Tetris* slave' game [a mini-game in *Playing History 2: Slave Trade*]. I suppose the logic was to use the *Tetris* mechanic to explain how terrible the journey on a slaver's ship was, how each slave had no space at all to move.

"The problem is that the gameplay is the worst possible way to convey this idea. *Tetris* rewards optimisation, the ability to stack everything neatly. In *Tetris*, a good match is where each piece finds its place, as if it 'belongs' there. It defines the slave not as a human being, but just a shape – and that's exactly the opposite of what you try to teach about slavery."

Alliot says art style is also an important choice: "*Passengers*' graphics are basic, texts are short and evocative – we let players make up their own mind. Talk about an eight-pixel farmer soothing a crying child and players will draw their own picture of this man."

> ***"Make your characters more than just their condition. Give them a purpose."***
>
> Sherida Halatoe, Tiger & Squid

Antoniades reports that he has received messages from people concerned about *Hellblade's* decision to explore mental illness. He has explained what the team is doing and, where possible, involved those people.

"We're not out to hurt people," he said. "I don't think this is a subject that has been treated right in films and games.

"A lot of the stigma around mental illness comes from portrayals of things like schizophrenia, which has been extremely negative in some games. Some titles imply that you need to be afraid of people with schizophrenia because they're violent. That's not helpful, because people who suffer from psychosis are often the victims of violence.

"With the research we're doing and the people we talk to, I believe *Hellblade* won't be as damaging as those things."

Of course, the commercial realities of the industry and uncertain demand for serious games means triple-A publishers are unlikely to branch into this area – but that's not something that should stop indies from taking the lead.

"It's very difficult to tackle serious issues in mainstream blockbusters," says Antoniades. "It's commendable when studios attempt it, but it's very difficult. You have a better chance with independent development because you're allowed to break rules at the expense of your audience, at the expense of it being a mass market proposition. It's up to developers. It always has been." ■

Play money

As monetising free-to-play games grows ever more complex, **Will Freeman** takes a look at the role of data, brands and ads in generating revenue

Above top to bottom: Spil Games' Christian Godorr and Iconicfuture's Christopher Bergstresser

Main: Hyper Hippo Games' PC and mobile free-to-play title AdVenture Capitalist

EVERY NOW AND then, it appears the waters of game monetisation have settled.

From standard DLC and timed life refills to a briefly heralded return for premium, various models have moved to assert themselves as the new foundation for pulling pennies from free-to-play games. The fact remains however that monetisation is a tumultuous entity. But there's hope.

Increasingly, old friends like analytics and brands are giving developers and publishers an opportunity to navigate F2P's turbulent waters.

Live games, games-as-a-service, and increasingly console titles, offer developers many opportunities, but one of particular interest within the context of monetisation through data is the notion of tailoring a game on a per-player basis. It's a method growing in prominence, and one James Gwertzman, CEO of PlayFab – which provides a back-end service conceived to build, launch, and grow live games – believes demands attention.

"Done well, this not only increases each player's enjoyment, typically measured by retention, but also gives developers new opportunities to monetise since different players are motivated by different things," Gwertzman says. "Some players love getting a good deal. Others want the latest and greatest gear. Still others want to help their friends."

And that, asserts Gwertzman, is where data comes in. And, he says, increasingly access to meaningful data is being democratised.

"The good news for developers is that there's been an explosion in the number of companies who gather and analyse game data," he offers. "Even small studios can now get access to detailed information about their players. The question is what to do with this data – is it just gathering dust in some data warehouse somewhere? Or are you able to actually use the data to change how you interact with your players in on a real-time basis?

"Successful companies have detailed player segments, and use these segments to drive different offers, events, content, even pricing. Where this is all going, I think, is machine learning that drives individualised segments of 'one', so each player really is getting a unique personalised experience."

DATA TODAY

Gwertzman certainly isn't alone in harbouring a vision of a games sector where personalising monetisation strategies to a given player's profile – built from mining a rich seam of data – offers an increasingly pertinent route to financial success.

Mark Robinson is CEO of DeltaDNA, which provides tools and technology for game analytics, data and player marketing, and he also sees potential in using data to customise the monetisation approach for each player.

"In the virtual world of the game it is possible to collect rich and detailed data about the player's profile," Robinson states. "The player is anonymous, but the data that can be gathered enables the playing experience to be shaped and the game to be made responsive to individual players."

That means, says Robinson, that it is possible to monitor the moment when a player is running out of resources and is likely to leave the game. Coupling that kind of information with in-game messaging, a studio can establish message triggers for players with specific characteristics.

"For example, they can gift resources to players just at the point they are running out, or they can dynamically control the difficulty of a mission for players that our struggling," says Robinson.

COMMERCIAL SUCCESS

Away from data and analytics, a monetisation method that long predates even our humanity's mastery of electricity – let alone ARPPU – is also increasingly prominent in games today. Advertising in-games is nothing new, but its presence as an alternative monetisation strategy in mobile free-to-play titles is particularly present in 2015. However, as time moves on, it might be inaccurate to say we've moved conversation that far from discussion about data.

"One key trend is the emergence of data-driven advertising, as developers are now able to utilise all the rich player data available to them to segment players into either IAP or ad-responsive groups," says Robinson of mobile games today.

By giving a game's customers the monetisation experience that suits them best, he adds, DeltaDNA has observed dramatic improvements in CPM, store ratings, and even improved organic downloads.

"Players who have similar tolerances for ad consumption often share other in-game characteristics," he adds. "By analysing the

SHELTERED REVENUES

FALLOUT SHELTER – THE mobile free-to-play spin off from Bethesda's popular RPG series – may have divided critics, but is has proved popular with fans, enjoyed much praise, and thrived commercially. So what is Bethesda's secret?

With the developers that built *Shelter* now toiling away on *Fallout 4*, it falls to Bethesda's Pete Hines, VP of PR and Marketing, to share the team's approach.

"We had an idea going in about how we wanted the monetisation to 'feel'," explains Hines.

"First and foremost we wanted to get the game right, and then find a way to add monetisation to an existing part of the game that didn't make you feel like our hand was in your pocket anytime you tried to move things along."

It's a sentiment you hear from numerous successful free-to-play developers, many of whom may warm to Hines' other perspective; that being led by industry trends is of insignificant importance for monetisation compared to simply building the game to your vision, and prioritising user experience.

"At no point in our game design or development process do we talk about setting industry trends," Hines states.

"The industry is a lot of developers and publishers making their own decisions. We're going to focus on what we want to do and how we want to do it and not worry too much about what everyone else wants to do, or is headed."

in-game data across the entire game economy, from acquisition through to IAP marketing and ad engagement, predictive modelling can then be used to identify which players are ad-responsive and when to serve ads, thereby minimising player churn."

Most agree that advertising in games is changing, and must advance if it is going to continue to retain users and generate revenue as an alternative to IAPs.

"In my opinion the current advertising models will be less relevant going forward, but that at the moment they still have merit and their place," predicts Christian Godorr, director of game design and monetisation at publisher and distributor Spil Games. "I think that a new generation of advertising revenue will start to rise."

In a world where so many games are free, says Godorr, it's no longer reasonable to assume players will accept any advertising strategy purely because they haven't had to part with cash. With free's days as a novelty long behind us, advertising has to be about relevance.

BRAND NEW THINKING

Elsewhere, developers are looking to branded content as an alternative means to engage and monetise. It's a technique that is something of a speciality for Iconicfuture, which focuses its efforts on delivering branded content for developers, from DLC packs to entire apps.

"Brands are a big business," asserts Christopher Bergstresser, excecutive VP at Iconicfuture. "The ten biggest players on the market alone have accounted for a revenue of $131.46bn during 2014."

Bergstresser and his colleagues see brands as a focal point for a distinct form of player community, where identifying collectively with a brand can be understood as a 'community identity'. But how to pull on that to monetise? Most simply put, players are more prepared to pay to consume a brand they identify with, especially if that also makes them feel part of a community centred around a particular IP.

> ***"Current advertising models will be less relevant going forward, but they still have their place."***
>
> Christian Godorr, Spil Games

It's a mindset that perfectly compliments this era of social media. But brands in games as a means to increase user acquisition, boost engagement, enhance retention and ultimately monetise must adapt to thrive.

"Highly engaged audiences spend more time in the game and eventually spend money," explains Bergstresser, before identifying a rising trend in the way brands are being used to monetise games. "In-game events themed around brands can be a powerful tool provided the brand fits seamlessly with the gameplay experience, the audience and offers the player something in return – even in-game credits in return for watching an ad."

TO BOLDLY PAY

The real frontier for game monetisation at present, however, is not a place defined exclusively by ads, analytics or brands. Console and triple-A titles, while set to gain from all those methods, exist in a place where means to monetise games-as-a-service are far from standardised.

"There are live games now available on all the major consoles, but overall I'd label this as a largely untapped opportunity," suggests PlayFab's Gwertzman. "The question is how to optimise monetisation on consoles so that players actually embrace it, instead of feeling like they're being taken advantage of by the big triple-A publishers."

It's a question yet to be answered, but one thing is certain. Triple-A fans are often happy to play something of a whale's role.

"Look at the $130 *Star Wars: Battlefront* deluxe edition, for example," offers Gwertzman.

And so it is that monetising on console currently makes the choppy waters of mobile monetisation seem like a placid lake.

"The benefit for the triple-A business is too big to ignore though, because next to DLC, the integration of live operations and IAPs can raise the lifetime value significantly, meaning publishers can look to operate a triple-A game profitably for years," concludes Godorr. ■

Above top to bottom: Playfab's James Gwertzman, DeltaDNA's Mark Robinson and Bethesda's Pete Hines

Cracking the mobile market

Bigpoint CEO Khaled Helioui speaks to **Craig Chapple** about the company's return to mobile gaming, and how it has changed its development culture in the hopes of finding as much success as it has had in the browser

Khaled Helioui (pictured) says Bigpoint can learn and leverage a lot from its browser games experience, but any new mobile game should be considered as a product on its own

BROWSER GAMES PUBLISHER Bigpoint famously quit mobile games development in 2012, having struggled to make an impact in the sector.

Two years later and under new CEO Khaled Helioui, however, the company acquired Lyon-based Little Worlds Studio and announced it was "happy to fail" in its return to the platform.

It's now nearly doubled the number of employees at that studio, and has hired the likes of former Take-Two creative lead Francois Coulon as head of production, ex-Gameloft creative director Christophe Garnier as lead designer and Disney's Ryan McDonald as senior producer.

Its first game has soft-launched in test markets, and another title is in pre-production. Its Hamburg studio also has four mobile titles at different stages of development, heralding a new mobile era for the company.

MOBILE MARCH

Making mobile games is a different kettle of fish from browser development, however. This has meant the studio has had to structure its teams differently in accordance with the target platform. But rather than a single top-down company-wide approach, Helioui says he wants teams to be responsible for themselves.

"We adopt a decentralised approach in terms of development and let producers determine the shape and structure of their team," he states.

"Having said that, we do differentiate mobile from PC development and manage it as an independent unit. Differences go beyond development, but also in terms of publishing. If we look at our teams we can see that mobile teams tend to be smaller, with sizes ranging anywhere between eight to 20 people – versus up to 50 for PC – to allow more agility and flexibility in terms of development and a much stronger focus on UI and UX."

Despite the differences, there is still some crossover between mobile and browser, though it can vary dramatically depending on genre, says Helioui. Strategy games, for instance, can be easier to migrate to mobile, while MMOs and RPGs may require significant redesign of certain features.

"From a development standpoint, developers should in general be careful of directly 'applying' online or browser designs to mobile," says Helioui. "It is another platform with a now educated user base with different expectations notably in terms of UI, friction to progression and the feeling of reward.

"There is a lot to learn and leverage from a browser development perspective, but it doesn't provide any guarantee and any new game should be considered as a product on its own."

IN WITH THE NEW

Bigpoint has plans to bring both existing and original IP to mobile. Teams are allowed to choose what game they would like to develop, which Helioui says tends to lead them into completely new ideas, but he says fans of its biggest games can expect a jump to mobile over the next few months.

But even transferring existing browser game IPs to mobile, such as *Dark Orbit* which has 90m players and *Farmerama* which has garnered 50m users, standing out still represents a big challenge. Even for a big company like Bigpoint.

Helioui says the challenge isn't just breaking into the upper echelons of the app stores, as any company with high marketing spend can achieve this. The difficulty is staying there.

"In that sense the challenge is there for any company notwithstanding its size or the level of historical success they have had," he says. "It all goes back to the quality of the game, its level of accessibility, viral potential and eventually – beyond the viral potential – the company's ability to sustain a level of traffic to keep the title there.

"There is no denying the market is extremely competitive with the top companies spending an inordinate amount of marketing on their blockbusters. The difference will come from the games – this is what we're doubling down on."

Though there are significant discoverability issues these days, though the App Store is a little more forgiving in terms of how high up a game needs to be to earn a healthy profit.

Helioui says it can be very profitable to be in the top 100 grossing apps.

Helioui believes that despite an undeniably competitive marketplace in mobile, with a new structure in place for teams, a fresh plan of action and popular IP to leverage, he says the company can be successful on its mobile return. ■

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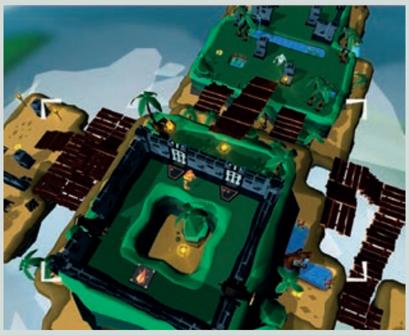

GREENSHOOTS

Gear up for Greenshoots

Microsoft and Creative England's incubator returns for a third cohort, now with double the funding and links to Xbox. Find out why this could be the best way to kickstart your studio's next project with up to £50,000

Main: (Clockwise from top left) Pixel Squad's Crime Coast, Total Monkery's ElemenTales and Mad Fellows' SineWave are just some of the games that have benefitted from the Greenshoots incubator

MICROSOFT AND CREATIVE England recently announced that they have teamed up once more to launch the latest round of their highly successful games initiative, Greenshoots.

Greenshoots enables independent games developers from the English Regions (outside Greater London) to kick-start the development and release of a new game, promoting commercialisation and creating jobs.

The fund supports companies that demonstrate great potential for growth and helps to stimulate the wider games industry in the regions.

The last two rounds of Greenshoots saw investments made into 17 companies, a number of which have already seen creative and commercial success.

Nottingham-based Pixel Squad's game, *Crime Coast* was featured prominently across major platforms, and Pixel Toys, a Leamington Spa-based games studio, appeared on stage at Apple's latest conference to demonstrate the new 3D Touch feature on iPhone 6S with their upcoming game, *Warhammer 40,000: Freeblade*.

Agostino Simonetta, Microsoft UK's account manager for ID@Xbox said: "Microsoft is vested in the growth of the UK games industry and more importantly in the commercial success of the indie game developer community.

> ***"Microsoft is vested in the growth of the UK games industry and success of the indie community."***
>
> Agostino Simonetta, ID@Xbox

"As we kick off the third round of Greenshoots I'm excited to see how it has expanded. We have significantly increased the financial support and the initiative is now open to games companies across England and Wales, not just those in London."

Jaspal Sohal, head of games and digital media at Creative England, added: "The creativity and success of past games and the fantastic teams behind them is what makes this programme exciting.

"Not only is Creative England uncovering hidden talent across the country but this is also an unmissable opportunity for games companies to work with Microsoft and benefit directly from their support and guidance."

This time Greenshoots is even bigger and better. Total funding available has doubled to £500,000 and companies from across the whole of England are now eligible (outside of Greater London).

Greenshoots is also working directly in collaboration with the Xbox Team and companies in the new cohort can now receive help to enrol on the highly sought after ID@Xbox programme.

Further enhancements include the addition of investors and publishers during pitches so companies have the potential to secure even more funding.

Applications are now open. The deadline for applications is Friday 30th October. You can apply at **www.creativeengland.co.uk/games/greenshoots.** ■

Red alert for the Sumatran tiger. Fauna & Flora International launches emergency appeal in response to 600% increase in poaching threat. 2 November deadline.

Photo: Evan Bowen-Jones/FFI

This Critically Endangered tiger has been pushed to the edge of extinction – maybe 500 remain. Give to stop the poachers at www.FFIsumatrantiger.org

One of the Sumatran tiger's final strongholds is under threat from a massive increase in poaching. Action is needed now.

- **£83,131 is needed to help us fund more rangers and step up action against the poachers in Kerinci Seblat National Park.**
- **This is one of the final strongholds of the incredibly rare Sumatran tiger, a place where the battle to save the Sumatran tiger will be won or lost.**
- **FFI's work here could be all that stands between the Sumatran tiger and extinction.**

A 600% increase in snares laid since 2011 has put FFI's anti poaching team on red alert. Habitat loss has already pushed the Sumatran tiger to the brink of extinction but now poachers have stepped up their efforts to snare these magnificent cats.

Fauna & Flora International (FFI) has put out an urgent call to the global community to save the last Sumatran tigers currently existing in the wild – and specifically to employ more rangers. There are now only around 500 Sumatran tigers left.

FFI is urgently seeking funds to step up their crucial conservation programme in Kerinci Seblat National Park, Sumatra, Indonesia. In order to safeguard the future existence of these magnificent creatures, it is vital that more rangers are employed

Right now, the Sumatran tiger faces a number of very serious threats, which are putting their very survival in jeopardy. And, sadly, they are all man-made threats.

Poaching is a constant danger for the elusive Sumatran tiger – and now poachers have **substantially** stepped up their efforts. Hunters make good money from the tiger's beautiful skin and demand is constantly growing. Also, its bones are illegally exported to use as ingredients in traditional Asian medicines.

What is really worrying now is that poachers have increased the number of tiger snares laid by 600% since 2011 and this year snares found have been at almost record levels.

This is against a backdrop of a very serious loss of habitat. In the last ten to 15 years, natural forest cover in Sumatra has been slashed by almost a staggering 40%. Now there is a newly emerging threat, discovered by tiger patrols - the growth of illegal coffee plantations in Kerinci Seblat National Park.

These majestic forest dwellers have been designated as Critically Endangered on the IUCN Red List, making the Sumatran tiger one of the most endangered tiger subspecies on the planet. This is a rating reserved for animals that face an extremely high risk of extinction in the wild.

Latest surveys have indicated that there may now be as few as 500 existing in the wild. Kerinci Seblat National Park is one of the last places on Earth where they can still be found.

Today, 170 tigers live in and around Kerinci Seblat National Park – the largest known population of tigers anywhere in Sumatra. Since 2007 the number of tigers in the park has stabilised and begun to slowly grow – largely thanks to the vital work of FFI's Tiger Protection and Conservation Programme. However, now the upsurge in poaching puts these gains under threat.

Debbie Martyr, FFI Team Leader of the Kerinci Tiger Project in Sumatra, says:

"So far this year our ranger teams have walked almost 1100 miles on forest patrols in and bordering the national park and destroyed more than 60 active tiger snares - an increase of 600% since 2011. That is why we need to step up patrol regimes".

Tiger populations are dreadfully fragile.

If FFI cannot recruit more rangers to protect the tigers against the increased efforts of the poachers all our good work could be undone.

For all of these reasons, it's now absolutely vital that we increase our patrols to protect tigers from poachers – and work towards greater protection for their delicate habitat.

If we're going to save the Critically Endangered Sumatran tiger from complete extinction, it's vital that we have the means to take action now.

FFI must raise £83,131. To do that, the charity is calling on the readers of Develop to make an urgent contribution today.

Photo: Gill Shaw

"If you value the natural world – if you think it should be protected for it's own sake as well as humanity's – then please support Fauna & Flora International."

Sir David Attenborough, OM FRS
Fauna & Flora International vice-president

Please send a gift, by no later than 2 November, to help safeguard the future survival of the last few remaining wild Sumatran tigers.

Together, we can save the Sumatran tiger from extinction – but only if we take action immediately.

To take action for the Sumatran tiger please go to www.FFIsumatrantiger.org or cut the coupon.

If the coupon to the bottom right is missing, please send your cheque (payable to FFI) to: FREEPOST RRHG-GBGG-CAGG, Fauna & Flora International, Sumatran Tiger Appeal, Jupiter House, Station Road, Cambridge, CB1 2JD by 2 November.

Stop press - Poachers kill Tiger in Kerinci
"We knew this tiger, a large male. To see it reduced from a beautiful wild animal to a pile of meat and guts made us all very angry".
Yoan Dinata, Tiger Protection Team, Kerinci Seblat

Fauna & Flora International, founded in 1903, was the world's first international conservation organisation. Today its work spans the globe, with over 140 projects in more than 40 countries. It has a strong history of finding creative solutions to conservation problems and of working with local communities. FFI is supported by the most eminent scientists and members of the conservation movement.

Dear readers of Develop:

Fauna & Flora International (FFI) has launched an emergency appeal, backed by Sir David Attenborough, to raise £83,131 to save the Critically Endangered Sumatran tiger.

These items are vital to help save the remaining Sumatran tigers from extinction.

£5,212 could help fund two new rangers posts and buy essential equipment – rucksacks, uniforms, sleeping bags, cooking equipment, field radios and compasses.

£2,500 could buy a pick-up van to help a patrol move around quickly to prevent poaching.

£400 could buy camping equipment and boots.

£72 could buy first aid kits to treat injured rangers whilst out on patrol.

£32 could help buy a field radio, essential to getting extra help if poachers are spotted.

Your donations, large or small, will help us save the Critically Endangered Sumatran tiger from the 600% upsurge in the poaching threat.

Cut the coupon below and return it to FFI, together with your gift, to help save the Critically Endangered Sumatran tiger. Alternatively, go to www.FFIsumatrantiger.org. Thank you.

I want to help save the remaining 500 Sumatran tigers today, with a donation of £______

FAUNA & FLORA INTERNATIONAL

Title Forename

Surname

Address

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☐ I enclose a cheque payable to Fauna & Flora International **OR**
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Type of card: Visa/Amex/Mastercard/Maestro/CAF

Card No:

Start Date: Expiry Date:

Issue Number (Maestro only):

3 digit security code: (Last three digits next to the signature)

Please note: If Fauna & Flora International succeeds in raising more than £83,131 from this appeal, funds will be used wherever they are most needed.
For no further contact by mail tick here ☐ For no further contact by phone tick here ☐
For no further contact by email tick here ☐

Please return to: Sumatran Tiger Appeal,
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FRSB give with confidence

You can call 01223 431991 to donate now.

Or go to: www.FFIsumatrantiger.org to donate online.

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Is Star Citizen a crowdfunding black hole?

Cloud Imperium CEO Chris Roberts speaks to **Craig Chapple** about the colossal expectations of one of the most expensive, technically challenging and ambitious games ever, and why he believes the team can finish it

Cloud Imperium CEO Chris Roberts (above) founded the company in 2012 to develop Star Citizen, and now employs some 255 staff in-house

AT THE TIME of writing, Cloud Imperium's crowdfunding juggernaut *Star Citizen* has raised $89.2m from nearly one million backers. It'll likely make an extra million or two by the time this reaches you.

But after raising such vast sums and becoming the poster child for crowdfunding, this, combined with a few years of development and no full release in sight, has seen the game attract strong criticism. Some have even gone as far to call the whole project a con, and even threaten legal action over promises made.

Progress continues regardless, even if a fully 'finished' version is far off. When asked if there's a general misunderstanding of the work that goes into development of such large titles that are opened up to the public from the very start, Cloud Imperium CEO Chris Roberts tells *Develop* that more could be done to teach consumers the truth of game creation.

REALITY OF DEVELOPMENT

"There's definitely education that has to happen on that side of things," says Roberts. "Some people understand, some people don't. One of the challenges, and this is true of all crowdfunding, is that people have been shielded from what it takes to make a game. With publisher-funded games, you don't see them for years, and pretty much most of them slip the schedule – you just don't know it.

"The publishers don't tend to announce the game until it's fairly far along. A lot of times you don't even get it to that point and the game is canned or cancelled, or redone.

"I think on the general public side, they're used to games getting announced at E3 and coming out that fall. So that's a bit of an education. Some people get it, some other people think 'wow, it's a little late, what's happening?'"

Roberts blames some of the impatience for the full game on an instant gratification society, joking the patience of humanity has decreased as time has gone on.

It's one of the reasons why Cloud Imperium has chosen to open up sections of the game early, such as the hangar, dogfighting module and social hub. This, he says, offers an opportunity for users to play and stress test features, provide feedback and make them feel as though progress is actually occurring.

> ***"One of the challenges is that people have been shielded from what it takes to make a game."***
>
> Chris Roberts, Cloud Imperium

Though with a number of critical articles popping up across the internet, and some backers demanding refunds, it's a tactic that appears to be affording it less and less time.

UK FOUNDATIONS

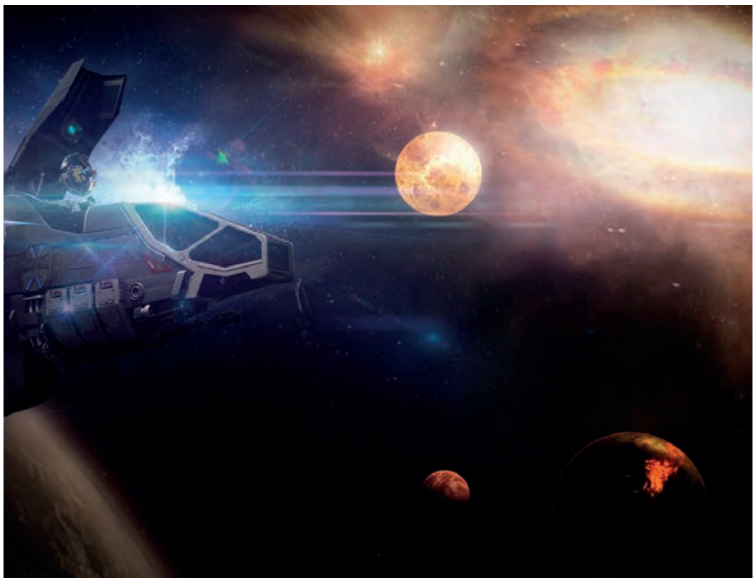
But raising $85m, to be invested solely toward the game's development, has become a colossal task for the studio. It's making one of the most expensive games of all time.

From a small team of 20 scattered across the globe in its early days, Cloud Imperium now employs 255 staff and has studios in Austin, LA, Manchester and Hamburg. It also outsources work to companies around the world, adding roughly another 100 staff heavily involved with the project.

The network of developers requires huge amounts of management and communication between studios. Roberts says that though it doesn't have things working perfectly yet, it's something the team is constantly looking to improve. It's why it has now codified its practices across all its offices, with the US studio having previously run production differently from the rest.

Despite having relied somewhat on outsourcing, Roberts says he's also moving away from the contractor side for both control reasons and cost effectiveness. Even though it was founded in the US and has studios placed around the world, Cloud Imperium is taking advantage of the UK's games tax relief and is heavily investing in its Foundry 42 office in Manchester.

"In terms of costs fairly reasonable compared to say London and everywhere else," says Roberts. "And it turned out that what we get charged by a company like Virtuos, after the tax breaks factored in, is cheaper for us in the UK than it is to give it to Virtuos. And of course we have much better management and control of what's happening. So we basically just decided we'd rather control it and have it in-house."



Star Citizen will let players explore the vastness of space at their own free will, seamlessly command new ships, venture into hangars and even land on planets

As well as management of both expectation, rising numbers of employees and new offices, such as the newly opened Frankfurt studio, *Star Citizen* also represents a significant technical challenge.

STAR TECH

When Roberts was first building the game, he decided against developing a custom engine for the title, stating he'd rather spend that engineering time modifying and improving existing tech than create something from scratch.

After a choice between an early version of Unreal Engine 4, which he said at the time was consistently being revamped, and Crytek's powerful CryEngine, Roberts chose the latter. But either way, Roberts says at the time both game engines weren't really built for massive open worlds of the scale he had envisioned

"The big challenge for *Star Citizen* is that you're in space, so you've got millions, or billions of kilometres, and a 32-bit flow does not have the precision to represent the numbers in a way that works well for the rendering," he explains.

Roberts says to stop problems cropping up, such as a lack of precision with geometry and floating points, the initial team of 20 staff spent ten months refactoring CryEngine to 64-bit. But all that work has still proven time and cost-effective.

"The other thing we had to do is the fact we have large areas of nothing, no data, out in space," he says. "Then you'll have areas of high density like an asteroid field or a big ship, because the inside of a big ship is basically like an FPS level. So we needed a way to essentially have variable data frequency.

"Most engines use octree for rendering. That's fine when you have pretty consistent density of data, which you normally do in a first-person or cover-based game, because you've got the environment around you and there's always shapes and characters or whatever. But we don't have that. So we developed this system that replaces all the normal sorting and monitoring and update stuff that's in CryEngine."

IN THE ZONE

The system Roberts refers to is its special zone system, that tasks the game with rendering 'containers' – or space – that the player is occupying. For example, he explains that a planet is a zone, and in orbit around that might be a space station, which is another zone. Then inside that space station, each of the rooms would be their own zones.

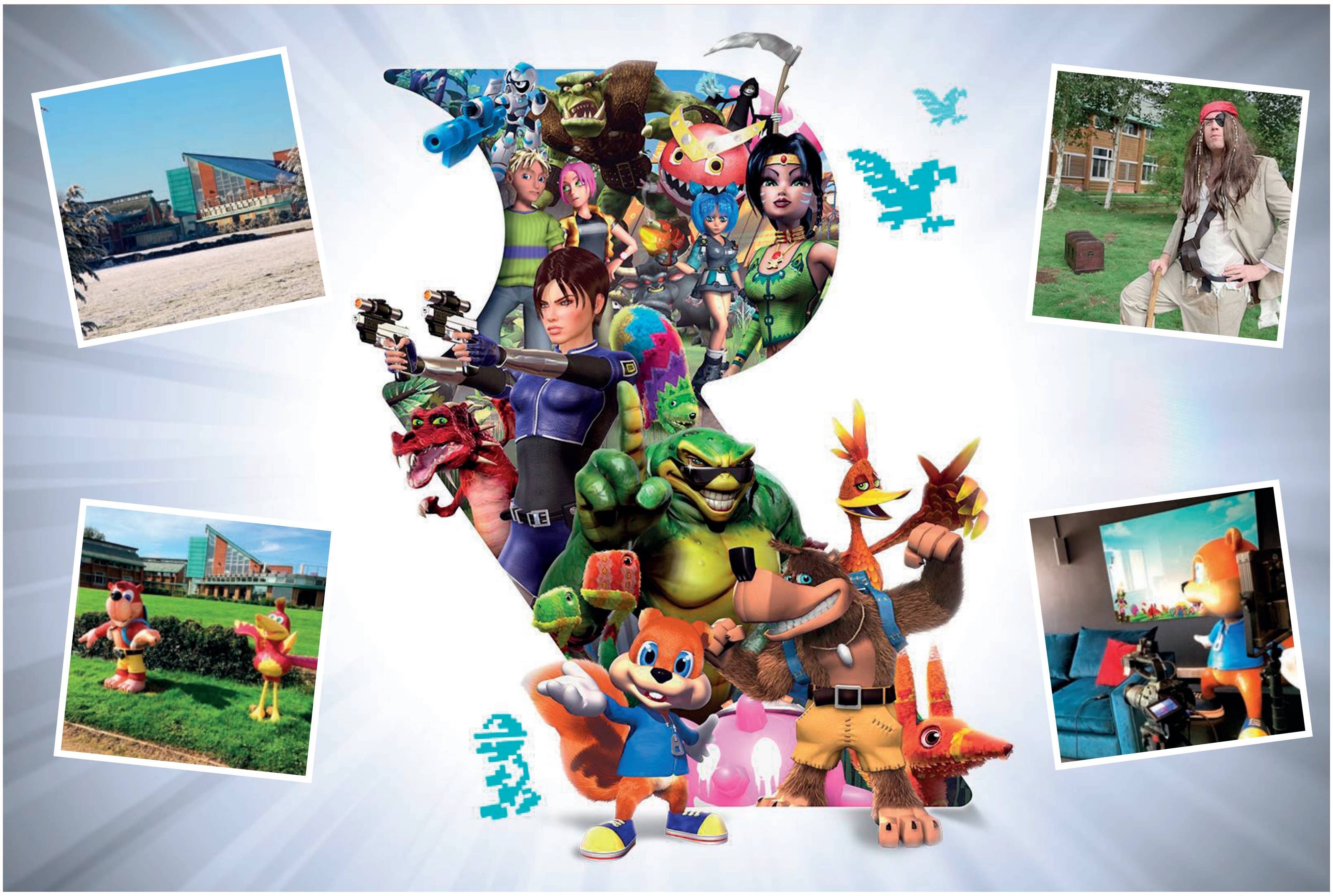
"What that allows you to do is partition the data in relevant areas to where you would be inside and it also allows you to stream the data intelligently as you move around the universe," he says.

"So that's another big thing we don't want to have: loading screens. So as we fly around, as we get close to the planet zone, the game knows it will start asynchronously streaming this data in the background.

"Plus the space station, when I'm inside that zone it starts streaming space station data, and so on. That system's custom made for having a huge, huge map and area you can move around in, that we obviously can't keep all the memory for at once, and we can't afford to render it, we can't afford to update at once, but if you're intelligently partitioning it, you can."

So after raising $85m and running a series of stretch goals up to $65m, and promising to invest it all into a game with a persistent universe and no loading screens, has Cloud Imperium Games indeed done what its critics fear: has it become too ambitious? Is it now dogged with feature creep? And will it ever be finished?

Roberts remains defiant: "First of all we're not doing the stretch goals anymore," he says. "And secondly, pretty much everything we promised we sort of have. There isn't any unknown R&D in terms of how we technically do this." ■



Rare lives

Reports of Rare's death appear to have been greatly exaggerated as the studio scored its first No.1 hit in 17 years. But why did so many believe they were dying in the first place? **Christopher Dring** speaks to lead producer Adam Park

Above: Rare's lead producer Adam Park

Main: Rare may have been quieter over the past few years, but it hasn't lost the sense of fun and irreverance that made it famous

'WHO KILLED RARE?' That was the headline to a consumer article written three years ago, and it's hard to imagine how the team at Rare felt about it – particularly when you consider they weren't actually dead.

The angle of the feature was that Rare, a '90s icon of UK games development, had faded into obscurity under the corporate gaze of its new owners Microsoft. It was a viewpoint backed up by the fansite *MundoRare* in 2010, which closed down with a scathing open letter to the studio it once idolised.

Yet the mood has changed. In August, Rare topped the UK charts for the first time since 1998's *Banjo-Kazooie* – 17 years ago – with *Rare Replay*, a compilation designed to celebrate 30 years of the studio. What's more, this was a collection put together with the care, depth and, most importantly, irreverent humour that the studio had become famous for.

It makes you wonder that perhaps Rare was actually alive all this time.

"The idea Rare isn't what it was a few years ago… to me, I grew up as someone who played Rare games," explains Adam Park, lead producer at the Twycross studio.

"I grew up near Rare. It was like Willy Wonka's factory. I didn't quite believe that this place that made all these things that I loved was local to me. Now I work at Rare, and there are people here that have been here since the Ultimate Play The Game times.

"Yes the industry has changed. Games are bigger, budgets are obviously a lot bigger and games take longer to develop. But Rare still has that sense of being a small group of people free to work independently. It still feels like I imagine it did back in the Ultimate Play The Game days, only on a greater scale."

"As with any studio, people come and go. Rare is in a fortunate position, particularly with being 30 years old now, we still have people who were there from the start. When you are working with people like Greg Mayles, who created *Banjo* and *Battletoads*, on *Sea of Thieves*, it helps maintain that sense of what Rare is."

GOLDEN ERA

Of course, Rare has changed. Back in 2000 and 2001, it released three of its most iconic games – *Perfect Dark*, *Banjo-Tooie* and *Conker's Bad Fur Day* – within ten months of each other. Such an output is impossible in triple-A games development today – not unless they expand exponentially, which would risk that 'small group' ethos that Park says is important to Rare's culture.

Another change is in how the studio works together. Back in the 1990s, Rare's multiple teams were each hidden away in different barns, with access only granted to those within the same team. It created fierce internal competition.

One such rivalry was between the *Conker* and *Banjo* teams, and when we discussed that with former *Banjo* developer Ed Bryan, he responded with: "I best be careful what I say, I don't want to get beaten up."

This 'friendly' conflict between teams was a key aspect of Rare's culture, but with team sizes growing and the need to share tech, art and ideas becoming increasingly important, these former rivals have merged.

Yet although this has impacted the quantity of Rare games – out of its 120 game catalogue, just 16 of them have launched in the last ten years – according to critics, Rare's games still hit the right quality bar on the whole.

However, certain fans were still not happy. Rare may be making good games, but they weren't building a new *Conker* or *Perfect Dark*. Instead, the iconic UK studio decided to make *Kinect Sports*.

RARE REPLAY

"The whole *Kinect Sports*-era is something we look back on very fondly," says Park. "Everyone is very proud of that. They were hugely innovative, massively exciting games.

"And we still kept these games uniquely Rare. With our last game [*Kinect Sports Rivals*], we had a lot of nods to previous Rare IP in there. We had things like *Battletoads*, *Kameo* and *Perfect Dark*, all featured in there. With *Kinect Sports: Season Two*, if you did well you got celebratory licensed music, and if you did badly you would get dejected licensed music – you could even be Rick Rolled. So we tried to keep that sense of fun Rare is known for."

GRABBED BY THE FUTURE

Kinect Sports and its sequels were a misstep in the eyes of fans. These were gamers that didn't want to jump around in front of their TVs with their parents. These weren't the games they expected from the teams behind *GoldenEye* and *Donkey Kong Country*.

Nevertheless, the *Kinect Sports* series was more in-line with Rare's heritage than some give it credit. The *Rare Replay* collection highlights how frequently Rare tries new things. *Battletoads, Killer Instinct, Donkey Kong Country, Banjo-Kazooie, Perfect Dark, Viva Pinata*… this is a developer with a reputation of retiring franchises and even entire genres in favour of doing something new.

"Doing new things is in the culture of the studio," continues Park.

"Rare always looks to the future to innovate. That is why we always embrace new things, like Kinect. We always try to look for the next thing and move onto something new. *Rare Replay* is testament to that. A lot of studios can end up focusing on one type of game or franchise. But if you look at the Xbox 360 era: on one end of the spectrum you have a first-person shooter and at the other end you have a garden simulator, with aesthetics that are so different and gameplay that is so different. We don't like to stay looking at the same thing for too long."

He adds: "It is so gratifying that people care enough that they are asking for these sequels. But equally, although people may want another *Conker* or another *Banjo* or *Perfect Dark*… we would never have made those games in the first place if we had just been making sequels to *Cobra Triangle*."

The good news for fans is that despite Rare's love for creating new IP, its iconic franchises are now expanding beyond the borders of its purpose-built studio.

Killer Instinct returned in 2013 with development passing to new studios. Conker has made his way into the recent Xbox One game *Project Spark*. *Battletoads* has appeared in hit platformer *Shovel Knight*. Nintendo is still making *Donkey Kong Country* titles, this time under the stewardship of US dev Retro Studios. Meanwhile, an outfit set-up by former Rare employees is creating *Yooka-Laylee* – the spiritual successor to *Banjo-Kazooie*.

"Oh we love all that," says Park. "We worked so closely with the *Project Spark* team and the *Killer Instinct* guys, we collaborated on these things. We didn't just push these franchises away. So it doesn't feel like we are losing a baby in any sense. We are there together with them.

"And things like *Yooka-Laylee*… those guys are great friends of ours and they have worked at Rare for many, many years, and we can't wait to see what they do."

> ***"We'd never have made Banjo or Perfect Dark if we'd just made Cobra Triangle sequels."***
>
> Adam Park, Rare

PERFECT CHANGE

Any negativity that hovered around Rare in the past appears to have abated with the launch of Rare Replay. In 2010, *MundoRare* closed, but in 2015, new fansites have emerged.

"It has been wonderful, *Rare Replay* has been everything we hoped for but we would never have assumed," enthuses Park.

"We met so many fans at E3, we had the fan fests and we met some of our most dedicated fans. The studio is buzzing with the reception we have been getting."

The company is now turning its attention to creating pirate-themed action adventure game *Sea of Thieves*, which is another new IP and another new direction for Rare. And one that has a lot to live up to.

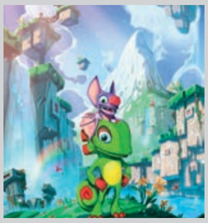
"If in another 30 years we are doing a second *Rare Replay* for the 60th anniversary, we want to make sure *Sea of Thieves* is in there," concludes Park. "And to make that happen, we need to live up to our past."

The critics were right about one thing when it comes to Rare. The studio has changed. But then it always did. ■

RARE ARE THEY NOW?

Some of Rare's alumni has gone on to launch their own indie studios and successful games. Below are the prime examples:

Tim Stamper
The Rare co-founder has since set-up another studio called FortuneFish, a mobile games company. Its latest game, *Cat Logic*, is out now on smartphones. He has also promised even more from his next project.



Gavin Price, Chris Sutherland, Steve Mayles, Kev Bayliss, Dave Wise, Steven Hurst
The names behind *Viva Pinata, Banjo Kazooie, Killer Instinct, Grabbed by the Ghoulies* and more launched Playtonic. Its first game will be *Yooka-Laylee*, the spiritual successor to *Banjo-Kazooie*. It raised more than £2m on Kickstarter, breaking UK records.

Chris Seavor
The *Conker's Bad Fur Day* creator and the voice actor is now working at his own studio Gory Detail, building the unusual platformer *The Unlikely Legend of Rusty Pup*. He also created the mobile game *Parashoot Stan*.

Mike Currington
After leaving Rare post-*Conker's Bad Fur Day*, Currington's career led him to Rockstar before setting up a US studio for Jagex. He has now set up an indie studio called DoodleooGames.com, and his first title *Party!Party!Party!* has just launched.

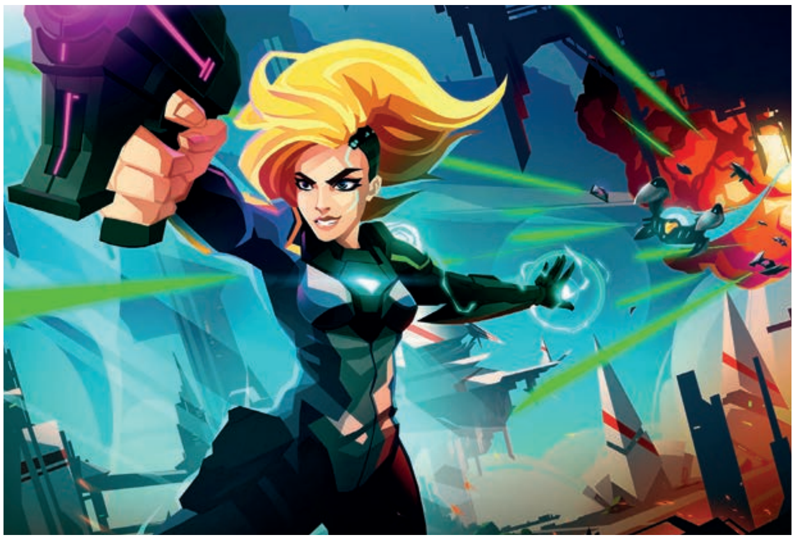
Charles Goatley
Viva Pinata programmer Goatley has just launched *Super Boost Monkey* under the studio name Okidokico, with the help of former Rare composer Steve Burke.

Nic Makin
Makin worked on *Perfect Dark Zero* and *Kameo*. He now operates Makin Games, a studio he set up with his wife. He launched classic side-scrolling brawler *Raging Justice* in May this year. He works alongside former Rare devs Steve Burke (composer) and Jay Howse (art).

Ross Bury
Perfect Dark environment artist set up Binary Panda Games in January. His first game is *Gravity Hero* for Android and Apple – a mission-based gravity-centric space shooter.

The Futur's bright

Craig Chapple speaks to FuturLab's operations director Kirsty Rigden about life at the Velocity 2X studio



Could you tell us a bit about FuturLab, for those unfamiliar with the studio?
Founded in 2003, FuturLab is an award-winning independent game studio responsible for the critically acclaimed *Velocity 2X* on PS4, Xbox One, PC and PS Vita.

We are fortunate enough to be based in Brighton, one of the most vibrant and diverse cities in the UK. Our studio has incredible 270-degree views across Brighton and Hove, and is just a block from the beach – we can go swimming in the sea at lunchtime.

What makes your studio different from other studios?
FuturLab focuses primarily on gameplay; we strive to create that 'one more go' feeling in our games. Ultimately, we want to make games that we want to play. We don't believe that gameplay should take a back seat to pushing graphical capabilities or dubious business models.

FuturLab doesn't do crunch. Tired teams lose enthusiasm and make mistakes, which is often reflected in the overall quality of a game. I believe that the reason our games consistently gain critical acclaim is that they are made by a healthy and happy team.

What was the biggest development for FuturLab in the last year?
Forging a fantastic relationship with Sierra and taking *Velocity 2X* to new platforms. Now PC and Xbox One players can enjoy the giddy thrill of teleporting through space at high speed as Lt. Kai Tana.

What are your goals and priorities for the year ahead?
We're creating a new project team within FuturLab, so our main goal right now is to find some enthusiastic and talented people to join us.

Development of our new IP has been going really well, and we need to maintain that momentum to ensure that all our games continue to be of the same high standard. FuturLab's studio Metacritic average is in the green and we want it to stay that way.

We've just signed an incredibly exciting new project and we need some very talented artists and coders to come and help us make it.

> ***"We don't do crunch. Tired teams lose enthusiasm and make mistakes, often reflected in the game."***
>
> Kirsty Rigden, FuturLab

Will you be returning to your existing IP in future or are you always looking at something completely new and original?
We currently have two projects at different stages of development; both are totally new and exciting IPs.

It's good for the team to be able to work on something completely fresh and I think it's exciting for our fans to be able to see what else we can come up with.

We do love the *Velocity* franchise and judging by consumer reception, so do a lot of other people. We'd need to think of a way of pushing the IP in a unique direction, without deviating from the core gameplay.

If we can, and the players want it, then we'd love to see Lt. Kai Tana in action again. ■

FuturLab
8th Floor Intergen House
65-67 Western Road
Hove, East Sussex
BN3 2JQ

T: 01273 747 534
W: www.futurlab.co.uk
FB: www.facebook.com/futurlab
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#DEVELOPJOBS

Your monthly guide to the best career opportunities in games development worldwide

MOVERS AND SHAKERS

Channel 4 makes series of hires for publishing arm All 4 Games

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RECRUITER HOT SEAT

Cloud Imperium Games on how its staffing up for Star Citizen

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SKILLS AND TRAINING

We take a trip to the University of Bedfordshire

P30

Unity hiring 500 staff in 2015

Game engine firm in mass recruitment drive to support change in business and carry on its ambition to democratise development

By Craig Chapple

UNITY HAS LONG been one of the major go-to game engines in the industry. But arguably the company hasn't had the huge scale you might expect for the team behind such a widely-used development toolset.

That's all changed in 2015 though. Unity has made the core game engine package completely free to developers who make under $100,000 in revenue, and it now plans to make its money from new services in its professional edition, which costs users $75 a month. These include cloud build pro, analytics pro and other benefits for paying users.

To support this shift in its business, Unity has been on a mass recruitment drive. So far this year, it has hired 400 new employees across the globe. It's a significant jump from the 175 staff it previously housed.

Employees come from 32 different countries, working in 27 locations around the world.

But this isn't enough for an increasingly ambitious game engine firm. It still plans to bring in a further 100 staff by the end of the year. Next year it's also opening new office spaces to house all this new talent in San Francisco and Copenhagen.

> ***"Unity touches 600m gamers through games made using our engine."***
>
> Anne Evans, Unity

But why hire so many new employees and nearly triple its headcount? Unity's global head of recruiting Anne Evans says its vast user base means it needs to bring in the talent to continue enhancing its tech and provide support to developers globally.

"Unity touches 600m gamers all over the world through games made using our engine, and we need to hire the best talent to drive our company, power our engine and be the most innovative in the industry," says Evans.

Vacant roles available, to name just a few, currently include R&D product manager, software engineer, UI/UX designer, graphics programmer, network programmer, backend developer, data scientist, dev ops engineer, senior marketing manager, developer relations engineer and many more.

Much of its recruitment drive is taking place in Brighton, Helsinki, Copenhagen, Montreal, Austin, Seattle and San Francisco.

"We are looking for passionate, driven, creative, smart, funny, earnest and ebullient believers," says Evans.

"We hire developers with talent and diverse backgrounds, as well as those passionate about our product. It's not enough to be able to do the job; we're looking for people who colour outside the lines." ■

www.unity3d.com/jobs

MOVERS AND SHAKERS

This month: All 4 Games, Auroch Digital, Fish in a Bottle and Climax Studios

ALL 4 GAMES Channel 4's new publishing arm All 4 Games has hired a number of games industry alumni, and is being led by the media organisation's games commissioning editor **COLIN MACDONALD**.

He is joined by **TONE BRENNAN** as executive producer, who comes from Outplay Entertainment. Brennan helped grow Outplay from a start-up to over 80 people, and was responsible for a number of releases including *Angry Birds Pop* for Rovio.

NEIL MCPHILLIPS comes on board from Sony as a producer. He was part of PlayStation's Liverpool-based XDev team, and Midway Games before that.

And joining as PR and marketing manager is Ripstone's **AMI LANGTON**. At that firm, Langton helped build its PR department from scratch and 'spearheaded' its comms strategy. Before Ripstone, she worked at Bizarre Creations.

FISH IN A BOTTLE Former Konami studio head **DAVID COX** has joined digital production company Fish in a Bottle in an effort to grow their core games business.

Cox worked at Konami for 17 years, joining in 1997 as UK product manager. He then rose to European product manager in 1999, rising to studio head and producer in 2006 via stints as a director and producer.

"I joined Fish in a Bottle because they are a development studio with big ambitions to grow in delivering core games services to the market," Cox said. "With the success of games like *Hitman Go* and *Fallout Shelter*, it's clear that there is a real opportunity for games publishers and developers to have companion content that not only supports key releases but can be incredibly compelling in its own right."

Fish in a Bottle MD Justin Eames added: "David shares our vision for the potential of taking our expertise in working with games and interactivity for global entertainment brands and applying that within the core games market."

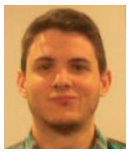
AUROCH DIGITAL *Pocket Gamer*'s deputy editor **PETER WILLINGTON** has departed the mobile-focused site.

He has joined UK studio Auroch Digital as games producer. He'll be responsible for being an advocate for players within the development team, and making sure the game stays on track with the original vision. The studio has worked on games such as *Endgame:Syria* and *NarcoGuerra*.

"We're really excited that Peter is joining our growing team," said Auroch design and production director Tomas Rawlings. "His insights into what makes a great game combined with the breadth of his knowledge of the industry itself will make him a strong addition to Auroch Digital."

Willington added: "I've always loved the studio's innovative projects and passion for pushing the boundaries of video games, and working on significant properties is, frankly, a bit of a dream come true."

Willington joined *Pocket Gamer* in 2011 as handheld editor and community manager, before rising to deputy editor.



CLIMAX STUDIOS The Portsmouth-based developer has hired **LEWIS HARVEY** as its newest producer.

Harvey has over eight years of experience within the industry. He joins from Lionhead Studios where he worked for five years. Before that he did stints at the likes of Rare, Microsoft, THQ and EA.

"Lewis has a wealth of experience in effectively running and motivating both internal and external development teams, as well incubation teams," said Climax head of recruitment Stuart Godfrey.

"His love and passion for the games industry resonates right through his CV and we are sure that we have added a key player to strengthen what is already a very strong team here at Climax."

Harvey added: "Video games have been a great passion of mine from an early age and I have dedicated my entire working life to the industry, from working in game shops in my teens to producing some of the biggest gaming titles in recent years."

Employee HOT SEAT

Bigpoint producer **Varun Nagendra** on how he got his position at the German developer and publisher

What do you do at the studio?
I work as a producer. I lead cross-functional teams to create innovative content and features for Bigpoint's flagship live casual title. I work with an extremely talented group of people to conceptualise and deliver incredible player experiences. My main focus is delivering entertainment that delights players across the world.

How did you get your current job at Bigpoint?
Prior to joining Bigpoint, I was working as a producer at Zynga. I've been fortunate to have lots of great colleagues in the industry, and one of the things I like about them is the passion and enthusiasm they have for their work.

A former colleague called me after he joined Bigpoint and said they were looking for a producer. I've always liked working with people I trust, admire and enjoy being around. So when he called me, I was instantly on board.

What perks are available to those working at the studio?
Bigpoint provides its employees with a lot of perks. Some of them are:
1. Relaxation lounges with the latest video game consoles and mobile devices.
2. Weekly 'Play Thursday' event where employees connect over beer and soft drinks.
3. Flexible working hours.
4. Training/education budget.
5. Dogs at work. Employees are free to bring their pets to work.
6. Fitness classes including yoga.

What is the recruitment process like at your studio?
The process varies depending on the role and the team/department you're interviewing with. For producers, we generally screen applicants through a written test. The tests are reviewed by a panel of producers who greenlight applicants for a telephone interview. We look for talent and experience but always put the applicant's personality and mindset first.

> ***"We have weekly 'Play Thursday's' where staff connect over drinks."***

Our on-site interviews for producers also include certain evaluations like pitching a game or preparing a business plan.

What was your own interview like?
I had two phone interviews and a few on-site interviews with various departments and stakeholders, followed by an interview with the CEO. I had the chance to meet a lot of interesting folks and we resonated well enough to instantly agree on contractual terms. One of the things I like at Bigpoint is the extremely smooth recruiting and on-boarding process.

Describe what the atmosphere is like at your studio?
The studio atmosphere is lively and fun. While we work hard, we also tend to play hard. We believe that you have to enjoy coming to work every day in order to make great games. We really aspire to push the boundaries of creativity to surprise and entertain our players.

Name: Varun Nagendra
Title: Producer
Developer: Bigpoint
www.bigpoint.net

RECRUITER **HOT** SEAT

Tom Johnson, senior project manager at Cloud Imperium Games, on landing a role at the Star Citizen developer

> ***"Make sure you do your research, turn up on time and just be yourself."***
>
> Tom Johnson, Cloud Imperium

BIO
Company: Foundry 42 / Cloud Imperium Games
Country: UK, Germany and US
Hiring: Multiple roles across all departments
Where to apply: cloudimperiumgames.com/jobs

What differentiates your studio from other developers?
The team at Cloud Imperium Games are working on the world-record breaking project, *Star Citizen*, that is taking a uniquely modular approach in releasing game content that enables our fans to be a part of the development process.

We're 100 per cent crowdfunded which gives us the ability to push the boundaries of video game development to places that no one has ever dared to go before. With the support of our incredible fans we are able to create a game with unparalleled fidelity and immersion that combines the best of the space simulation, MMO and FPS genres under the creative vision of the acclaimed *Wing Commander* and *Freelancer* creator, Chris Roberts.

And if that wasn't enough, we're also creating *Squadron 42*, a cinematic single-player campaign game that has a rich story narrative and intense military action.

How many staff are you looking to take on?
The numbers will increase with the demands of the project, but currently we're looking to hire upwards of 60 staff across multiple departments in our four international studios of Los Angeles (USA), Austin (USA), Manchester (UK) and Frankfurt (Germany). Some positions are not studio specific although others are; so if anyone is interested they should check out our website for further details.

What perks are available to working at your studio?
The main perk of working at Cloud Imperium Games is the thrill of working on the project itself. We're doing something that has never been done before, so naturally it's an exciting game to develop. The scope and fidelity of the game gives our incredibly talented team the opportunity to really excel themselves and use their skills to create world-class content with cutting edge technology.

What should aspiring devs do with their CV to get an interview?
It depends on the hiring manager for that department, but candidates should certainly try to make themselves stand out wherever possible with a well-presented CV that shows relevant and succinct content. Also, examples of work is very important, especially for art, so make sure to spend time on making your showreel really shine.

Who is the best interviewee you have ever had and how did they impress you?
Thanks to the attraction of the project we're working on, we've been fortunate to have some really great interviewees which makes it difficult to pick. The most memorable ones are when the candidate is able to talk at length and depth about their field, expressing intimate knowledge and passion, and what they can bring to the team.

And who was the worst?
If anyone who hasn't done any research on the project then this always comes across the worst. Especially when we are so transparent in our development and have so much information readily available online. After those, people usually fall down due to poor punctuality, bad communication skills or a lack of confidence.

What advice would you give for a successful interview at your studio?
Make sure you do your research, turn up on time and then just be yourself. If you have what it takes, make sure you sell yourself and tell us what you can bring to the team and then things will either work out or they won't. Giving it your best shot is all you can really do.

If you have recruited internationally, what is the process like?
We use video calls on a daily basis for cross-studio meetings so naturally we take interviews in that way too. There may also be some more communication done via email and ideally we would set up a face-to-face meeting if that was possible; but we have hired with just using video calls in the past.

How have your recruitment needs changed at your studio?
A project is always dealing with change to a degree so the hiring plan behind it needs to be updated regularly to adapt to that change.

Why should developers join you when indie and self-publishing have become so much more accessible?
We're still technically an indie company, just with a triple-A budget, so we have been able to maintain our core values of developing the game to the highest standard possible and the way that we want to. We're also a global company that is very flexible and mobile in our working methods, so if Cloud Imperium Games appeals to you then it's definitely worth applying to find out more.

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GET THAT JOB

Development specialists offer advice on how you can bag that career leap

THIS MONTH: ASSOCIATE PROGRAMMER WITH PIXEL TOYS' TOM GLEADALL

What is your job role?
Associate Programmer at Pixel Toys, working on *Warhammer 40,000: Freeblade*.

What qualifications and/or experience do you need?
Normally a qualification in Computer Science or Software Engineering is required, but in the right circumstances any technical degree – Maths, Engineering – combined with either professional or non-professional programming experience can work.

How would someone come to be in your position?
It's easy to find graduate/entry-level programming roles advertised on websites and in magazines. So with the right qualifications, responding to these ads could land you a job.

However there are other routes. I made a sidewards leap from a game design career since I realised that I was increasingly drawn to the more hands-on, code-based aspects of design, such as game prototyping. I found Pixel Toys, a local company well-aligned with my experience and interests, and I speculatively sent through my CV with a long cover letter explaining my situation. After an interview and a few positive references, I was in.

> ***“Coding is a great combination of logic and fun, with a bit of magic thrown in.”***
>
> Tom Gleadall, Pixel Toys

If you were interviewing someone, what do you look for?
For entry-level programming roles I'd look for someone who can demonstrate flexibility in their work, since they might frequently be asked to jump around between systems, especially in a small, growing company like Pixel Toys.

Communication is also critical – a useful programmer is one who can discuss technical systems with other programmers, discuss game features and requirements with designers and artists, and also document their own code in a clear way. Also, an experience of relevant games is a huge win too, so if you're going to be working on mobile games, for example, you want at least a passing understanding of how IAPs and touch input work.

Why choose to follow a career in your field?
If you enjoy playing games – digital or otherwise – and you like to understand the inner working of things, then being a games programmer is a perfect match. It's a great combination of logic and fun, with a bit of magic thrown in for good measure.

If you've got job advice to share, email **Craig.Chapple@intentmedia.co.uk**

SKILLS AND TRAINING

This month: University of Bedfordshire

University of Bedfordshire
University Square Luton
Bedfordshire
LU1 3JU
UK

T: +44 (0)1234 400 400
E: admission@beds.ac.uk
W: www.beds.ac.uk

DUNGEON ESCAPE
PLAY
MAP EDITOR
INSTRUCTIONS

The University of Bedfordshire houses numerous tech and tools, including Oculus Rift dev kits and its own six-camera optical motion capture suite

The University of Bedfordshire offers a BSc in Computer Games Development, a course it's been running since 2002.

Its course focuses on the type of smaller-scale games built by micro studios and lone developers, and for all kinds of platforms such as mobile and augmented reality. It's part of an ethos that runs throughout its teaching, structure and the students it attracts.

“Because we are relatively small we are able to adapt our teaching to reflect changes in the industry,” says senior lecturer in computing and information systems Rob Manton. “We are members of TIGA and BUGS and many of our staff are actively involved in commercial projects.”

As with most universities, students have access to the usual tools such as Unity, Unreal Engine, Visual Studio, Photoshop and 3ds Max. It has offers a range of Android and Apple devices for mobile and tablet development, as well as the Oculus Rift for VR work. The University also provides a full six-camera optical motion capture suite.

To ensure students are prepared for life in the games industry, pupils are put to work on group projects in each of the three years they spend on the course. They take on specific, specialist roles and follow what Manton calls an industry relevant process.

“In the first year they produce a 2D learning game, typically for a local museum,” says Manton. “In the second year they produce a casual game for mobile and or web, and in the third year focus on polishing a game they have already produced to a publishable standard. In addition to this we host game jams each year and encourage all students to take part and add to their portfolio of game projects.”

> ***“We host game jams each year and encourage all students to take part.”***
>
> Rob Manton, UoB

To help give students a start in games, the university has an on-campus internship scheme with Sodalite, and a working relationship with local developer AISolve.

15 October 2015

Games Funding: Forum

Public funding
GAMES

The Games Funding Forum is a half-day conference and networking event taking place on 15 October in London.

Whether you're a three-person indie or a major studio, how you fund your next game has never been so important.

And there have never been so many ways to do it. Crowd-funding, government grants, new world or traditional publishers, Venture Capital - all offer ways of getting your hands on that all-important cash.

Discover:

- The pros and cons of different types of funding
- Practical tips on where to find and how to access funds
- How other developers have successfully raised finance

Plus meet investors and grab some business cards - it might be the first step to getting financed!

Sessions include:

Game Dev's Guide to Funding Sources in the UK
Ella Romanos
Strike Gamelabs

"Soup to Nuts" A Funding Model
Mike Hayes
Mercia Technologies

Filling the Gap – Financing Tips from the UK Film Industry
Jonny Kane
Iglu Media

Creative England: Up to 50k Funding for your 2016 Game
Jaspal Sohal
Creative England

Adventures in Funding with David Lau-Kee
Dr David Lau-Kee
London Venture Partners

www.gamesfundingforum.co.uk

Media Partners

develop MCV POCKET GAMER .biz

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Tandem:Events

Partner Events

Develop:Brighton Evolve:Brighton F2P:Summit deltaDNA

When you really know your players

the possibilities are endless >

- device type
- lifetime value
- eCPM per ad
- currency balancing
- price elasticity
- recklessness
- aggression levels
- user flow
- momentum
- strategic ability
- social sharing
- player interaction
- XP rates

- items bought

- damage received
- resources used
- lives lost
- economy balancing
- win/loss ratios
- rate of purchasing
- take-up of bundles
- benchmarking
- player feedback
- mission completion
- ad consumption
- on-boarding progress

Only **deltaDNA** gives you live direct access to all your player engagement data.

We also provide the tools to engage with players, including push-notifications, in-game messaging, game balancing & player-centric ad serving.

Try for free: www.deltadna.com
Contact us for a demo: info@deltadna.com

BUILD

THE LATEST TOOLS
NEWS, TECH UPDATES
& TUTORIALS

THE STINGRAY ENGINE

We take a look at Autodesk's brand new game tech

P36

HEARD ABOUT

Behind the music and sound of hit horror game Until Dawn

P39

UNREAL DIARIES

Discover the origins of Psyonix's hugely popular Rocket League

P42

Making games by the numbers

Analytics plays an increasingly important role for developers today, particularly in free-to-play. **James Batchelor** asks how studios can make the most of their data

odel
Share
ngmi 4G
2.49%
2.10%
mi Note 4G
2.10%
1.49%
LTE
1.38%
0.95%
Xiaomi
22.61%
Samsung
12.21%
HUAWEI
8.91%
OPPO
6.52%
BBK
6.51%
LENOVO
YuLong
Rank
OS
1
2
3
4
6
7

IT IS NO longer enough to know how many people are playing your game. Now developers need to know how long they're playing for, why they stop playing, whether they spend in-game and how they might be tempted to spend more.

The world of analytics might not seem particularly exciting, but as DeltaDNA CEO Mark Robinson observes, paying attention to key metrics will "shine a light on problems that would be impossible to discover any other way".

"The ultimate goal of using analytics is two-fold: monetisation and player happiness," he explains. "Contrary to popular belief, monetising your game does not lose you players; what does is a failure to understand player behaviours and deliver the right experience to the right user. This is where analytics comes in.

"Know your players and you will build successful games. Instinct only gets you so far. Data and analytics gives insight into different playing experiences. Essentially, there are only two questions, both of which can only be answered with analytics: Why are payers leaving, and how do I improve my revenues?"

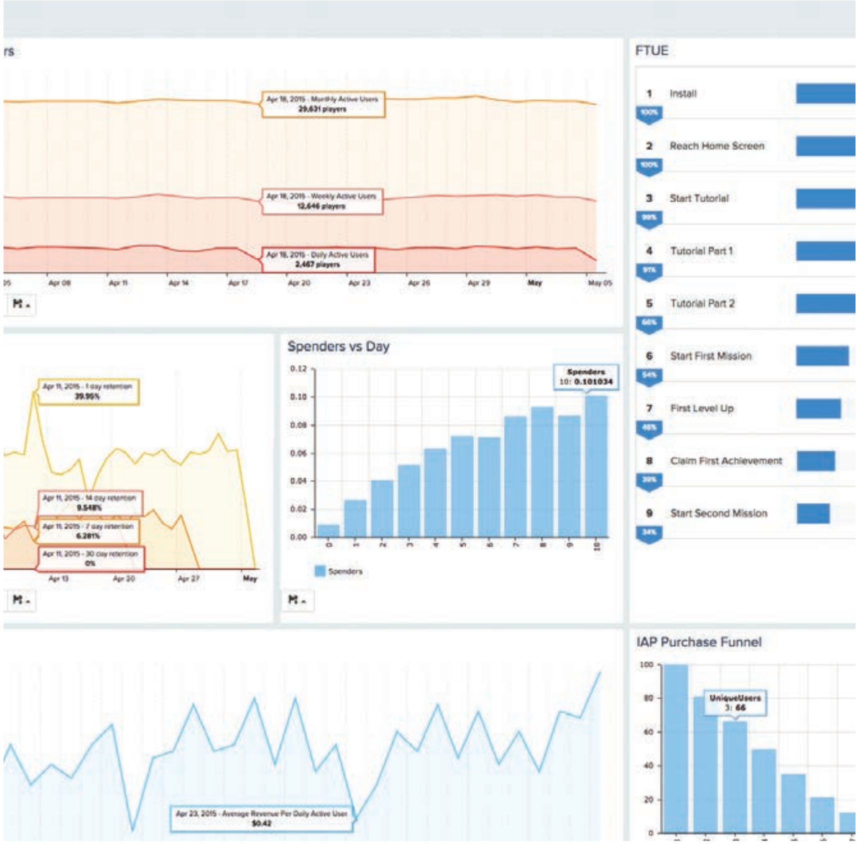
Ninja Metrics CEO Dmitri Williams agrees, quoting a long-running business adage: "If you can't measure it you can't manage it. Great decisions require both smart decision makers and good data. You won't get far with only one of those. Decisions without data are as dumb as data without context."

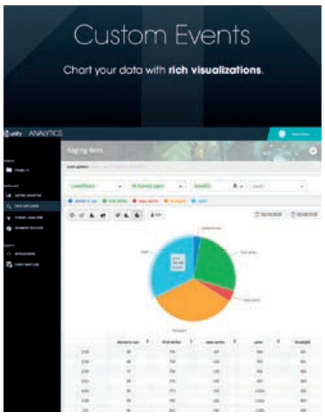
Some devs remain sceptical, believing that making decisions based on analytics stifles creativity. But John Cheng, general manager for Unity Analytics, says this is not the case.

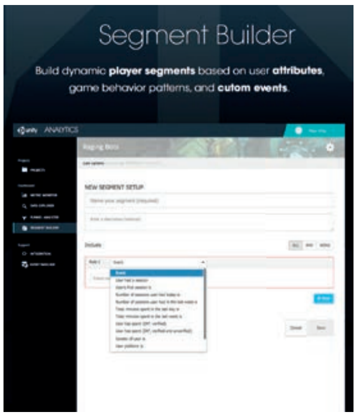
"Analytics can tell you if your best players are quitting at level five because the boss is too hard, or if your new players are going crazy over the latest treasure hunts you've added," he says. "These are insights into your

Above: DeltaDNA's Mark Robinson says analytics can help developers uncover problems they didn't even know they had

Main: Unity's Jon Cheng demonstrates the engine firm's new analytics tools


Apr 16, 2015 - Monthly Active Users 29,631 players
Apr 16, 2015 - Weekly Active Users 12,646 players
Apr 16, 2015 - Daily Active Users 2,467 players
FTUE
1 Install 100%
2 Reach Home Screen 100%
3 Start Tutorial 98%
4 Tutorial Part 1 97%
5 Tutorial Part 2 66%
6 Start First Mission 54%
7 First Level Up 45%
8 Claim First Achievement 39%
9 Start Second Mission 34%
Apr 11, 2015 - 1 day retention 39.95%
Apr 11, 2015 - 14 day retention 9.548%
Apr 11, 2015 - 7 day retention 6.281%
Apr 11, 2015 - 30 day retention 0%
Spenders vs Day
Spenders 10: 0.101034
Spenders
IAP Purchase Funnel
UniqueUsers 3: 66
Apr 23, 2015 - Average Revenue Per Daily Active User $0.42


Custom Events
Chart your data with rich visualizations.


Segment Builder
Build dynamic player segments based on user attributes, game behavior patterns, and cutom events.

unity ANALYTICS
Uncovering the insights that bring your game to the top.

Top to bottom: Allison Bilas of GameAnalytics and Ninja Metrics boss Dmitri Williams

game design that you wouldn't be able to unearth without analytics."

So which metrics should you be tracking? There are so many values to monitor, it can be hard to know what to focus on.

The obvious one is your daily and monthly active users – DAU and MAU. After all, your game needs an audience, and you need to know how big that audience is.

Retention is also important, but Robinson points out this needs to extend beyond day one. day seven and day 30 can be just as vital, as you need to understand how long players stick around before leaving your game.

That's not to say day one isn't important. Tracking the first time user experience is instrumental in understanding how your title can retain players for the long run.

"A typical free-to-play game might lose 20 to 30 per cent of players within the first two minutes," Robinson explains. "So the FTUE is the place where small improvements can make a big difference to game performance."

BRING A FRIEND

While it's also vital to monitor your players' spender rate after install, number of purchases made, and the all-important ARPDAU – average revenue per daily active user – Williams suggests another, less discussed metric that can be a central pillar to your game's long-term success: Social value, the amount of spending or play that a user drives among others.

"Anyone can spot a whale, but without knowing who the 'social whales' are, you don't know who's causing the spending," he says. "They usually don't look important because they are rarely big spenders themselves, but if a social whale is at risk of churning, you're going to not just lose them, but all of their friends.

"Causing a social whale to act has a positive ripple effect out. Treat them right, and help them enjoy their friends, and you always get a spending lift from the larger group. Watch game mechanics and other player experience events and how they lead to social value.

"It's crucial to know what part of the game is growing the community, and what part is killing it."

Spenser Skates, CEO of Amplitude, says simply tracking metrics is not enough – developers need to act on them, particularly those concerned with player behaviour.

> ***It's crucial to know what part of the game is growing the community, and what's killing it.***
>
> Dmitri Williams, Ninja Metrics

"Knowing that you have a 15 per cent day seven retention is helpful, but how do you actually improve that number?" he says.

"The best way is to compare the behaviours of the 15 per cent that stuck around compared to the 85 per cent that churned. Identifying the differences will help you tailor your early product experience to drive better retention and grow your game."

ANALYTICS IN ACTION

Cheng reminds devs they should only monitor metrics that are actionable – if only to avoid drowning in data.

"Focus only on the key drivers for your game's success," he says. "In free-to-play, your emphasis is on engagement metrics. Are your players staying in your game, and do they keep on coming back?

"Don't get bogged down worrying about the number of total players or downloads as they are often just vanity metrics."

Allison Bilas, GameAnalytics' VP of product, suggests studios think beyond the usual stats and use analytics to evaluate game design.

"Track the concepts that lead to players being more engaged or more likely to spend money, such as player progression, virtual economies or in-game resources," she says. "These give you a deeper understanding of how players interact with your game, and why your overall KPIs [Key Performance Indicators] trend the way they do. It's important to know the high-level KPIs, but also the underlying context to understand how to act on the data."

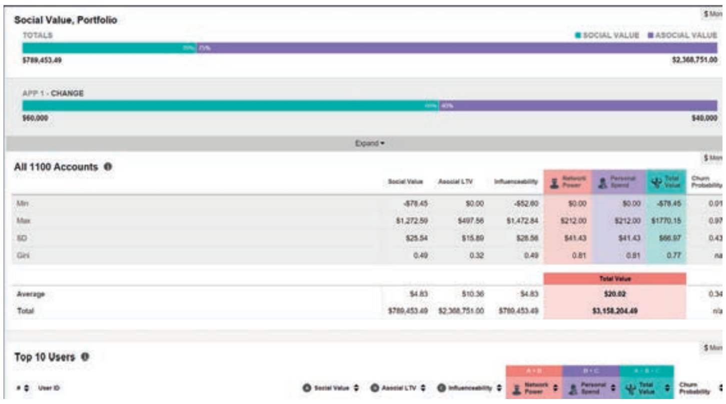
Once you've established whether changes need to be made, Upsight's director of services and analytics Nathan Triplett stresses that it is imperative to test those alterations first – and that they should only be made if absolutely vital to the long-term success of your game.

"The more changes you make, the higher the chance of doing something awesome or terrible," he warns. "The first step should be to have good hypothesis, supported by data. Making level ten twice as hard is a risky proposition. Doing so because the success rate of users passing level ten is 40 per cent below levels nine and 11, and the rate of users spending on power-ups during level ten is also low, is how decisions should be made.

"Making level ten harder may cause people to spend more, but it may also cause others to spend less. Is the trade-off going to be worthwhile? Reduce that risk by only rolling your changes out to a small fraction of your users first – say, one per cent. Then compare the churn, retention, and spending rates of those to your baseline users. Once you've acquired enough data, you can be confident in your decision to roll out the change to everyone."

STATISTICAL SUPPORT

Not all developers have the know-how to access and track this data, so multiple


Social Value, Portfolio
TOTALS
SOCIAL VALUE
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APP 1 - CHANGE
$60,000
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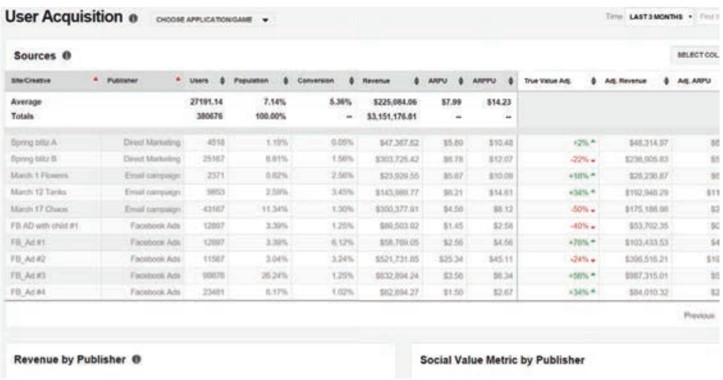
User Acquisition
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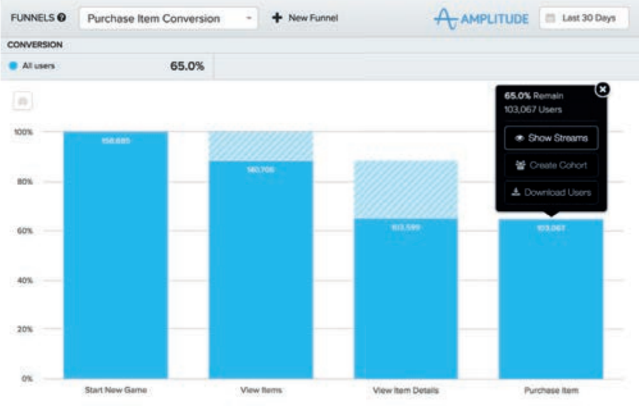
LAST 3 MONTHS
Sources
Average
Totals
Revenue by Publisher
Social Value Metric by Publisher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CONVERSION
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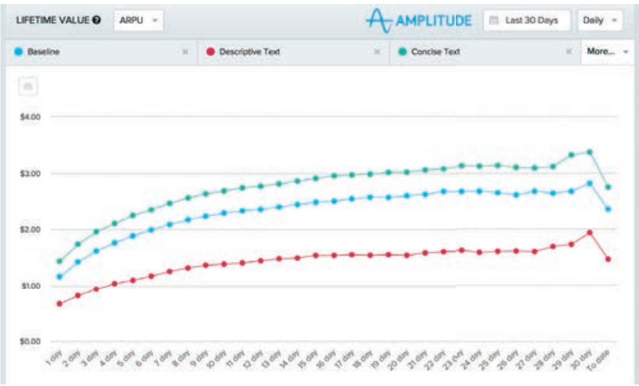
Purchase Item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1 day
To date

Top to bottom: Upsight's Nathan Triplett and Amplitude's Spenser Skates

Left: There is a range of third-party analytics tools available, but it is up to devs to find the one that offers the data they need

companies have formed businesses around providing analytics and the tools to better understand them.

You can see our comparison of leading providers below, but what should studios expect from these firms?

"These days, detailed analytics is only part of the picture," says Robinson. "Successful third-party tools combine dashboards with flexible and powerful analytics and multi-channel marketing tools, allowing users to quickly diagnose and action active player management.

"The dashboards should tell you how the game is performing and how it benchmarks. Data capture and querying tools give you the insight you need to make changes. You also need the tools to interact with players, make offers, make gifts, balance the game, serve ads and test changes made."

Triplett adds: "You want an analytics provider to make you more efficient, but you also need flexibility. Your CEO should be able to glance at a dashboard and glean the high-level picture in seconds. Your marketing team should be able to know if the new acquisition campaign they launched is a return on investment. These use cases are often available with many analytics tools."

Skates says studios should ensure their analytics package can scale as they and their game grows: "As you continue to build out your game you'll want to track new features, and having to calculate trade-offs because of event-based pricing will waste time that's better spent on building product."

But above all, an analytics provider should make your data as accessible as possible. Bilas says that, fortunately, there are plenty of gaming-specific packages available that already know the key metrics you'll need to track.

"They also often have features that allow you to compare your game performance against other games, which is invaluable in bringing context to your data," she says.

"That said, there is no analytics solution that is going to be able to do everything for you, so having a tool that gives you complete access to your raw data is important so that you can do custom analysis when needed." ■

	DATA MINING	PREDICTIVE MODELLING	AB TESTING	RAW DATA ACCESS	GAME CONSULTANCY	PLAYER ENGAGEMENT	LIVE PLAYER ENGAGEMENT	GETTING STARTED
Amplitude	✓	✓	Third Party	✓	✗	Third party	✗	Free up to 10 million monthly events - limited functionality
deltaDNA	✓	✓	✓	✓	✓	Push notifications, In-game messaging, In-game ad serving, Game parameter adjustment	✓	Free 10kMAU/month trial - full functionality
Game Analytics	✓	✗	✗	✓	✓	None	✗	Free unlimited data, intergations with Unity, Unreal and Marmalade
Leanplum	✗	✗	✓	✗	✗	Push notifications, In-game messaging	✓	Free 50kMAU combined - limited functionality
MixPanel	✓	✗	✓	✗	✗	Push notifications, In-game messaging, Email	✓	Free up to 200k data points and 20k users
Ninja Metrics	✓	✓	✓	✓	✓	Third party integration with all major vendors	✗	Free full functionality up to 10k MAU
Omniata	✗	✗	✓	✓	✗	Push notifications, email	✗	Via sign-up form
Swrve	✗	✓	✓	✓	✗	Push notifications, In-game messaging, email	✓	Via sign-up form
Upsight	✓	✓	✓	✓	✓	Push notifications, In-game messaging, segmentation and targeting, and app parameter adjustment	✓	Schedule a demo

A new engine in town

Autodesk's Stingray engine will cost developers £30 a month, and is included with Maya LT subscriptions for free

Tools giant Autodesk is set to make a splash with its new Stingray game engine. **Craig Chapple** asks why it's entering the highly competitive space, and why developers should consider it

IN A MARKET dominated by game engine giants Unity, CryEngine and Unreal Engine, it's not often a new contender comes to the fore.

There's numerous other tech, of course, for specific case-uses, from GameMaker and GameSalad to Construct, but now there's a new major game engine in town, backed by one of the biggest tech companies in the industry.

Autodesk has entered the engine race with Stingray. Having long been a provider of tools like Beast, Maya LT and Scaleform, it's now providing a platform to combine all of those together. The tech is built from the BitSquid engine the firm acquired in 2014.

Targeted mainly at 'indie professionals', it's being made available on a subscription basis for £30 a month, or less depending on the duration of your package. The cost may be somewhat low compared to engines of old, but since Unity and Unreal Engine are offering their engines for free, it's a bold choice to stick with a premium price for a new product. It should still be noted however that there is a free 30-day trial for developers looking to test it out first.

But there's one particularly tantalising attraction for developers. For that same £30 a month, you'll also get access to the full Maya LT. That's on top of all its middleware products being made available free in the engine in binary form. Existing Maya LT subscribers are also getting Stingray for free.

"Included with Maya LT, it's a really strong offering," says Autodesk game solutions group senior director Frank DeLise, before saying of his rivals: "Free is still not quite free if you're doing anything commercial. It's either royalty or it's got restrictions."

UNDER THE HOOD

Wesley Adams, who looks after product marketing at Autodesk, says Stingray has been created to be lightweight, yet powerful enough to provide high graphical fidelity, and also offer seamless integration with its expansive portfolio of tools.

> ***"This kind of design is really looking at: what is the future of making video games?"***
>
> Wesley Adams, Autodesk

The user interface of BitSquid has been written in HTML5, which Adams says provides unique advantages for flexibility. One of the biggest benefits perhaps is that the UI is completely disconnecting from the engine. Should the viewport crash, the engine will keep running. As DeLise puts it, this means developers can just hit the restart button and continue where they left off. "The engine doesn't crash, in a sense," he says.

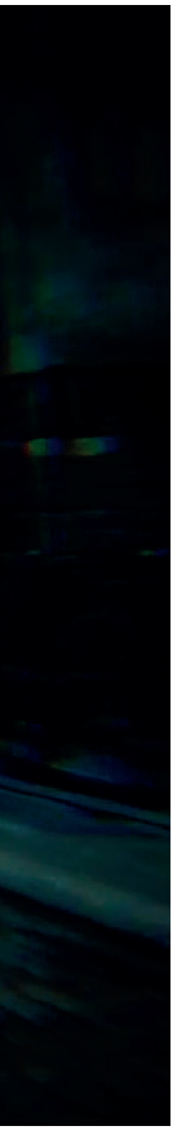
Stingray also is also based on a data-driven, 64-bit architecture, which Adams says helps differentiate it in from other engines in a way that's also appealing to developers.

"It means your renderer and the core technology of the engine are separate from your data sets," explains Adams. "And this lets you access and make big, big changes to your engine just by looking at human readable layer in JSON files and then you can see the updates happen in near real-time to your engine in the editor.

"So this kind of design is really looking at: what is the future of making video games? And how can we make even drastic changes like this way, way easier? In my head that's always the hardcore side of making changes to your game."

The engine offers a number of features, including a node-based editor. This means instead of manually entering all the code, or even if the user has never touched code before, they can take ready-made nodes and drag and drop them in.

Flow nodes can also be created by scripting in Lua. If an extra node is required from a more experienced programmer, for example, they can code it, and send it across by just copying the code out of the editor and pasting it into an email. This can then be pasted back into another user's editor to



create the new node, which they can then carry on using.

Further features include physically-based rendering to produce high-level visuals, lightmap baking, its own reflection system and more.

"We've got that data-driven side that's going to appeal more to your hardcore programmers that really want to get into the guts of the engine, and then we're trying to make it friendlier at the other end too, so that more people can get into making games," says Adams.

PAIN-FREE COMPILING

Continuing with the firm's goal of a forward-thinking game engine built on modern architecture, Autodesk wants to make the process of getting your game on your target platform easier.

"This is one of the most painful parts and can be one of the longest parts of making your game," says Adams. "That whole crazy loop of compile your build, send it to the guy that's going to put it on your target platform, they test it and they give you feedback. Honestly, it's just painfully long."

To this end, Stingray lets developers link the engine's editor to the target device on which the game will run. As the developer is using the editor, they can see the device, such as an iPad, PS4 or Xbox One, keep up with what it's being asked to do on-screen. Changes can then be made on the fly with the results shown in real-time on each of the platforms.

Each bit of content displayed on the target platform will be what has been specifically designed for that device. For example, when a material is created, it can be made for PC, iOS and Android. The different options for that same object is then what is shown on-screen. This can also be done for effects, LODs and other assets.

This is all done by downloading a special app for Stingray. The engine then connects to the app over wi-fi, and streams the content to the target platform. This can be done on multiple devices at once to see the changes on each, and also to platforms based in another country for a teammate to analyse.

"So suddenly, whether you're an artist or gameplay designer, you can literally just go play the game, see how stuff looks, and then in-real time just go back and forth," states Adams.

"You can be like 'oh, this looks like garbage, I don't want to have that here', or 'this jump is too high', or 'this mechanic doesn't work right'. You can literally just go in, fix it, it updates right away in the engine and then sends it to your device as well. Then you can test it and keep going."

MAKING WAVES

DeLise says the main target market for Stingray is what he calls 'indie pros'. These are developers who have made a game before, or those who want to make a bigger game like an MMO.

He claims the likes of Unreal Engine and Unity can be "too much of a black box and not flexible enough" for the needs of some developers. However, it should be noted Epic Games has gone to great lengths to make its source code freely available with Unreal Engine 4, while Unity is widely known for its accessibility and ethos to democratise game development. But he says it's also for those after a new data-driven architecture with their engine.

"The biggest thing is, if you look at Unreal, it does have super high quality visuals, that's its strong point, but the black box nature of both those engines have been limiting in the sense for indie professionals," says DeLise.

"It's for people who want to get to that next level or expand, make an MMO, or do games that really stress the system. Stingray doesn't make as many choices for you in the sense of what kind of game it is, it's much more open that way. That's what we think is really its strong point."

He adds: "I like to say it has the visual quality of Unreal, the ease of use of Unity and a flexibility of no other."

DeLise goes on to say the reason Autodesk got into the game engine space in the first place was because of the convergence of real-time technology across all industries, not just games, and it's a key part of the company's future. He concludes with a sign of where game engines may ultimately be heading – requiring as little code as possible and being accessible to everyone.

"I think today it's about these big game engines," he states. "But tomorrow it's going to be press play." ■

DEVELOP’S TOP TIPS

ENHANCE YOUR GAME DESIGN DOCUMENT

Matthew Wiggins, CEO, JiggeryPokery

Design docs are notorious for being out-of-date as soon as they are written, so I like to combine them with a log of discussions, playtests and decisions taken. This gives a deeper understanding of the intention of the design, helping with the many choices that will have to be made when actually making the game.

Des Gayle, founder, Altered Gene

Do just enough design up front to get everybody started and failing faster. The days of the 50-page, static bibles for game design documents are done. Use an online collaborative tool like [Atlassian’s] Confluence so that discussions around features are open and everyone can see the “methods behind the madness”.

Tony Gowland, consulting F2P game designer, Ant Workshop

Keep them short, cutting unnecessary words. I prefer bullets over well-written paragraphs – i.e. “Interactions: Swipe right to cancel” versus “Here the player can simply make a swiping gesture to the right to return to the previous screen”. People don’t read long documents, and an unread GDD may as well not have been written.

Stephen Caruana, lead designer, Pixie Software

Many aspects of your game are constantly evolving, especially considering today’s design and development zeitgeist. So treat your GDD as an in-flux record of your current understanding of the game; start high-level and get into further detail over time. It needs to be regularly maintained and, importantly, easily accessible to all the team.

Kris Skellorn, studio design lead, Playload Studios

Don’t expect them to read it more than once. Do not show every edit to your documents to your team and expect them to re-read slight changes to the same features over and over. When writing drafts, circulate them amongst a smaller group of other designers, project owners and / or producers for review, before passing it out to the rest of the team. If you are lucky, on the average project, your artists and coders will read some of your documents at least once.

Lisa de Araujo, Block N Load producer, Jagex

Don’t write design documents. Obviously you must document designs for your quality assurance teams and your publishers, but design docs are almost impossible to keep updated sufficiently to be useful for implementation. Instead, consider taking an Agile approach and break your features into Epics and User Stories. Agile Design methodologies are great for game design and tools like Jira make managing iterative development easy.

Matt Molloy, lead designer, Climax Studios

As you prove and disprove feature statements via prototyping and expand upon their design, be as visual as possible. A picture really is worth a thousand words. But more importantly, the more creative and visual your design, the more likely it is that people will read it, understand it, enjoy it and offer feedback on it. It is part of your job to get everyone on the same page and invested – which a design wall-to-wall with boring old words will never achieve.

Mark Simmons, CEO, Freejam

The design document should be created with the core audience for it firmly in mind, contribute significantly to the conception process, and provide the audience with effective direction and specification that they need to achieve the creative vision. For example, in *Robocraft*’s case we created a lean design doc, with the high-level vision and objectives, for a relatively small feature set, to empower their creativity to achieve the build, measure, learn and iterate philosophy of agile development.

HEARD ABOUT

A new Dawn for horror

John Broomhall talks with Supermassive Games' Barney Pratt about creating Until Dawn's haunting sounds

Supermassive audio director Barney Pratt (above) shaped the audio for its PS4 outing Until Dawn (main)

AS AUDIO DIRECTOR, Barney Pratt was responsible for shaping the sound of *Until Dawn*, from concept to final delivery. It was always clear that audio would play a pivotal role, with original music from composer Jason Graves being a key factor – a 'big soundtrack' matching the epic mountain setting and dark forces at work – and a fresh take on interactive music implementation.

"You should feel like you're 'playing the film' so a straight 'stems/states' interactive music approach wouldn't have provided the variety, nuances and emotional edge of a horror movie," Pratt explains.

"Actually almost all *Until Dawn*'s music was edited in a traditional film sense: stems fitted to picture augmented with bespoke edits to run off into stems or loops driven by various game parameters.

"But player choice is a key game feature. As the narrative branches and therefore the emotional curve, so too must the music. Needing to reflect clear differences between 'hide' or 'run' choices further reinforced the need for bespoke music cues to closely illustrate the player's own effect."

As a new IP, the Supermassive team felt that *Until Dawn* deserved a unique soundtrack and Pratt applauds Graves for providing that.

"Over several conversations we established firm trust on the music direction, which I kept very open to allow him to really leverage his experience and creativity. He delivered a brilliant, rich orchestral score – but in stem-form often as wide as 19 stems, enabling really tight edits to exactly match the gameplay.

"They worked in any number, interactively, or could be separated to re-work elsewhere. Even the more melodic cues, when separated into stems, could have their core extracted and overlaid with new elements, twisting the original intention of the cue, such as a love theme underpinning violent action. Jason generated a gold mine of emotional suites for me to dig into and cross-fertilise. The filmic nuances and music variety in *UD* just wouldn't have happened without such a strong collaboration – and from so early on."

SOUND WITHOUT BOUNDARIES

Another technique Pratt's team established was to force diegetic player position to effect non-diegetic stem mixes. For example, the volume of a violin stem could increase or decrease as players approach a door, and this could be used to pre-empt a scare or trick the gamer into expecting one.

"It created a language we could have some fun with," he says. "Characterisation and foley were also significant focuses – our characters looked great and they needed to sound great. We employed various techniques to get the dialogues sounding as natural as possible, including group recording sessions and a multi-layered speech playback system so there's always some sequence of sounds, however subtle, emanating from a character's mouth, right down to gentle lip-smacks, gulps and sighs.

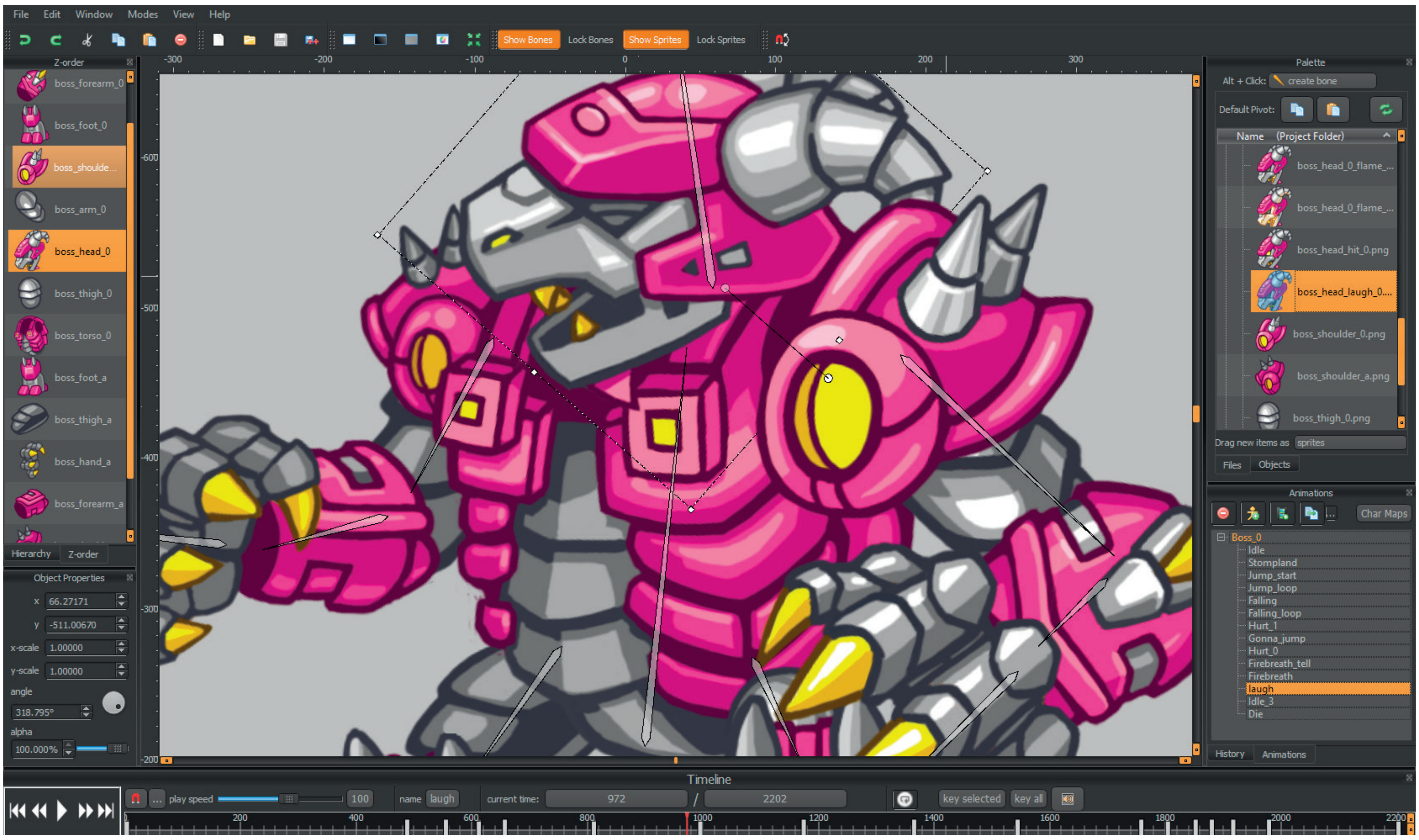
"Emotive sounds like these were key to gelling the scripted dialogue lines. Character foley was also crucial to conveying not just movement but also mood, from a parker jacket 'slip' to a leather coat 'creak', a bare foot 'pat' or the unforgettable sound of two denim seams passing each other, we had unique foley for all variants of all characters."

Another challenge was that the characters' motion capture data provided an infinite range of movement, and therefore an infinite range of foley. This prompted Pratt to develop procedural systems that trigger character footsteps and cloth.

"Innovative as they were, these systems didn't provide the exact subtlety we wanted, so we had an additional layer for anything missed elsewhere, to achieve the smooth sense of foley you'd expect from a film sound treatment," Pratt says.

"We knew we wanted to merge the best bits of film and game horror in order to maintain immersion and achieve new extremities of player response – and I'm very happy with how it turned out." ■

John Broomhall is a game audio specialist creating and directing music, sound and dialogue **www.johnbroomhall.co.uk**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TOOLS SPOTLIGHT

Animating with Spriter

We speak to Brash Monkey's Mike Parent about its 2D animation tool and what it can do for you

Brash Monkey's Mike Parent (above) says the team is developing a new fully featured reference Spriter to make it easier for devs to port to their favourite language or authoring system

SPRITER IS A modular 2D animation tool designed specifically for use with games. It's been used in projects such as *Don't Starve*'s Mod Kit, *Gunhouse*, *Crea* and *Hero Generations*.

Its game development-tailored features enable developers to synchronise sound effects and object spawning, trigger events, or change the values of variables with an animation. It also lets users add and animate collision boxes and spawning or anchor points.

Another feature is the ability to export animations as animated GIFS, sequential image PNGs or Sprite sheets, at any FPS. Brash Monkey's Mike Parent, who co-created the tool with Edgar Muniz, claims it can help decrease development time, reduce file size and increase animation quality.

"The full value of Spriter comes when using a Spriter implementation to actually recreate the animations in real-time from the Spriter file data and the images you used to create your animations," says Parent.

"Modular animation was used extensively by classic console games for giant bosses that covered the screen, and later for gorgeous 2D games such as *Odin Sphere* and *Muramasa*."

The tool is available in two versions, free and pro. For no cost, developers get access to features such as onion skinning, inverse kinematics, GIF exports, sequential PGNs, and animations can also be kept as Spriter files and used in free or commercial games, animations or art packs.

> ***A single animation can combine skeletal and non-skeletal methods.***
>
> Mike Parent, Brash Monkey

Pro meanwhile offers game specific features like points, collision boxes, event triggers, sound effect triggering and variables. It also offers the full editing of character maps, which lets users tell the tool to hide or replace images on the fly, ideal for allowing players to customise their appearance.

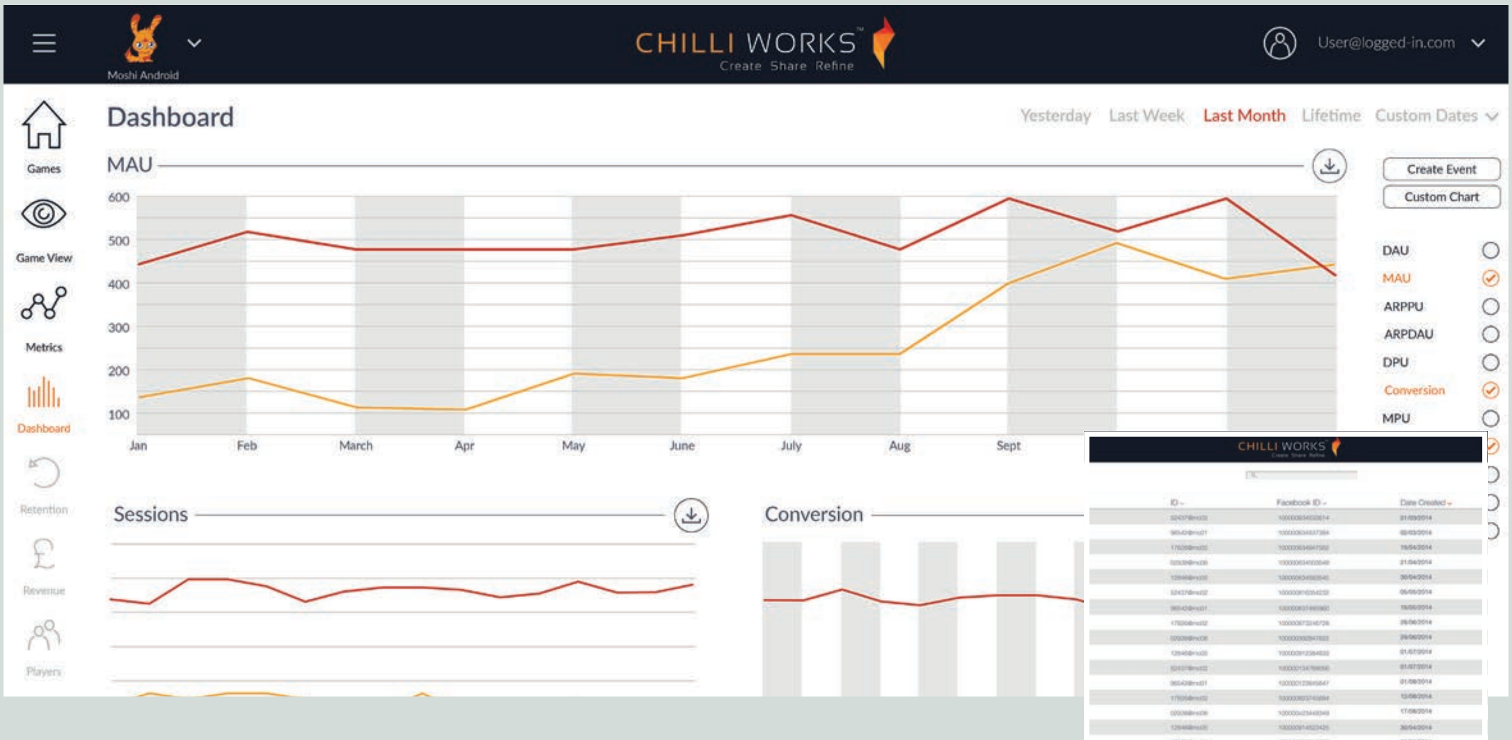
Spriter, says Parent, is ideally used for 2D games after smooth animations but with reduced memory demands.

"Even if you were using pre-rendered full frame animations from a 3D or vector program, Spriter Pro can be used to perfect the timing and placement of each animation frame," he explains. "This, along with animating collision boxes, spawning points etcetera can be an invaluable time saver and can make tweaking how your game plays much more intuitive and enjoyable."

Parent says one of the key elements of Spriter compared to other animation tools is the ability to animate without using bones. He claims it's "unintuitive" to use bones when animating UI elements and explosions, for example.

"You can even change the skeletal hierarchy midway through an animation to animate things like a character removing a hat or switching their sword hand," states Parent. "A single animation can also combine skeletal and non-skeletal methods."

Brash Monkey is working on a number of major new features for Spriter. It's currently developing a fully featured reference Spriter implementation to make it easier for developers to port to their favourite language or authoring system. It also plans to implement the ability to deform and warp images, both with and without bones. ■



KEY RELEASE

Connecting the hots

Having already debuted ChilliSource this year, Tag Games is unveiling new back-end technology ChilliConnect

AT THIS YEAR'S GDC, Scottish studio Tag Games unveiled ChilliSource, an open source game engine it released to the development community.

Now Tag has a new technology to share that, like ChilliSource, emerged as an internal solution before revealing itself as ideal for a wider developer audience.

"ChilliConnect was born out of Tag's need to be able to deliver free-to-play games with connected features," explains CEO and founder Paul Farley.

"A number of years ago we had no back-end capability at all and to begin with we were reliant on third-party providers – none of which met our strict criteria for feature set and pricing."

Motivated by that criterion the Tag team started to develop moConnect, an internal solution which later evolved into ChilliConnect. And now it's ready to flee the Tag nest.

THE SUITE SPOT

ChilliConnect is a ready-to-use, back-end service providing studios with a full suite of tools to maintain a live game. It will present users with a range of options, such as metrics technology, user management tools, social integration, game data management abilities, push notifications, DLC management and more besides. And for now it is entering beta.

"The features in our beta, and those that we'll be brining to ChilliConnect over the next few months, are relevant to studios of all sizes," says Farley.

"However, Tag itself has grown rapidly over the last few years and we've had to continually keep evolving our tools to work well with larger teams. For example, we've spent a lot of time making sure configuration can be managed effectively within a large development team, that our management team have quick access to the most important post-launch KPIs, and also that our game economists have full access to the raw data that is captured within each game."

That means that while Tag believes ChilliConnect should appeal to studios of many sizes and types, the team hopes that as the feature set expands, larger, multi-discipline teams in particular will embrace the offering.

And Farley is confident ChilliConnect users will enjoy numerous benefits.

"ChilliConnect has evolved from systems that have been developed and used in live games over a number of years at Tag, so any studio will be using a proven, reliable back-end they can trust, allowing them to focus on developing their game without having to worry about deploying or scaling servers," he asserts. "Post-launch, we also provide access to essential game KPIs, such as DAU, MAU, Retention and ARPDAU."

All those KPIs are captured through a singular SDK, and are displayed in the same ChilliConnect dashboard, the intent being that there is never need to integrate a separate analytics tool, offering what could be a significant time saver.

NOT MISSING A BETA

The ChilliConnect offering is also a platform agnostic technology. Tag will offer an SDK for it's own ChilliSource engine, and the team will support as many platforms and languages as is possible, from Android to other engines such as Unity.

"As part of turning ChilliConnect in to a standalone product, we've spent a lot of time simplifying and streamlining our APIs, so even if the SDK you require for your platform isn't yet available, integrating should still be relatively straightforward," Farley predicts.

For now, Farley and his team are looking for beta testers.

"We're going to be moving really quickly over the next six months as we bring more features across from our own internal systems into ChilliConnect, and we really want to speak to as many studios as possible," concludes the Tag CEO. "There's a great opportunity for studios that are looking for a proven, reliable back-end to run their games on to get in touch and have a real influence on our roadmap and pricing as we work towards our first v1.0 release."

www.tag-games.com

Tag Games CEO assures devs that ChilliConnect has been used in his studio's own games for years, making it a tried and tested back-end tool

The hugely popular Rocket League began life as an Unreal Tournament mod. This was used as the basis for a PSN game with an absurdly long title that serves as the predecessor for this year's smash hit

UNREAL DIARIES

Rocket League scores, Unreal Engine assists

Epic Games looks at how Psyonix's breakout hit shows that perseverance pays off

ROCKET LEAGUE'S IMPACT seemed to appear from out of nowhere, serving as a runaway hit and what appears to be an overnight success. Yet things are not always exactly as they appear; a fact that developer Psyonix knows very well.

Motivated by games of their youth, the core team was inspired to create a game that featured piston-pumping vehicles that could leap into the air. While filled with enthusiasm for this concept, they weren't quite sure where and how to apply this mechanic to an actual game.

After experimenting with a quirky idea using *Unreal Tournament 2004*'s expansion pack, Ben Beckwith and Dave Hagewood moved onto creating an original game, one that would expand the idea further.

"We struggled to find the right game for it," Hagewood explains. "We were working on a silly battle game when we first attempted to make a soccer mode. It was all we played after that, so we knew we had something."

Rough ideas began to develop and things began to come together in an exciting fashion. Yet, for the time, the idea remained relatively obtuse for some, leading to difficulties when pitching the equally thick title *Supersonic Acrobatic Rocket-Powered Battle-Cars*.

Sporting a bizarre concept, and admittedly unrefined controls, Psyonix self-published a release on the PlayStation Network for PS3 in 2008. The developers were frustrated by the apathetic response to their new game but remained confident that they were onto something with potential.

"Even with low sales we didn't blame the game concept," says Hagewood. "We knew the problem was in our execution, our lack of polish, our marketing, and steep learning curve."

Learning from past projects, they understood the difficulty not only of making a good game, but one that would sell. Recognising that the odds were not quite in their favour, they decided to adopt a new model that allowed the studio to continue creating content, while minimising the inherent financial risk.

> ***"We didn't expect Rocket League to take off as much as it did, but we stuck to our guns. It paid off."***
>
> Dave Hagewood, Psyonix

Hagewood says: "We built a business around work-for-hire. Our clients were in the risk-taking business, not us."

This new format proved beneficial for Psyonix, resulting in a stable source of income that was not entirely dependent on a game's success.

"If a work-for-hire game is a big hit you aren't any better or worse than if it fails," discloses Hagewood. "The key was to use this stability to balance out the risk of making our own IP."

No longer obligated to publisher deadlines, the maneuverable nature of contract-based development was a fantastic positive, freeing Psyonix to generate income as they developed products of their own.

Armed with a new business model and having grown a staggering four times in size, the studio utilised their experience into *Rocket League* and the realisation of a perhaps once out-of-reach dream.

Unlike its predecessor, the game met with resounding praise from throughout the industry. A hit with players of all varieties, the game is triumphant proof that the belief Psyonix placed in their concept was completely warranted.

"We didn't expect it to take off as much as it did, but honestly we wouldn't have gone back to it if we didn't know it had mainstream potential," Hagewood says humbly. "We stuck to our guns and it paid off."■

UPCOMING EPIC ATTENDED EVENTS

IndieCade
October 22nd to 25th
Culver City, California

Unreal Engine 4 for Mobile Developers
November 5th
San Francisco, California

Montreal International Game Summit
November 15th to 17th
Montreal, Quebec

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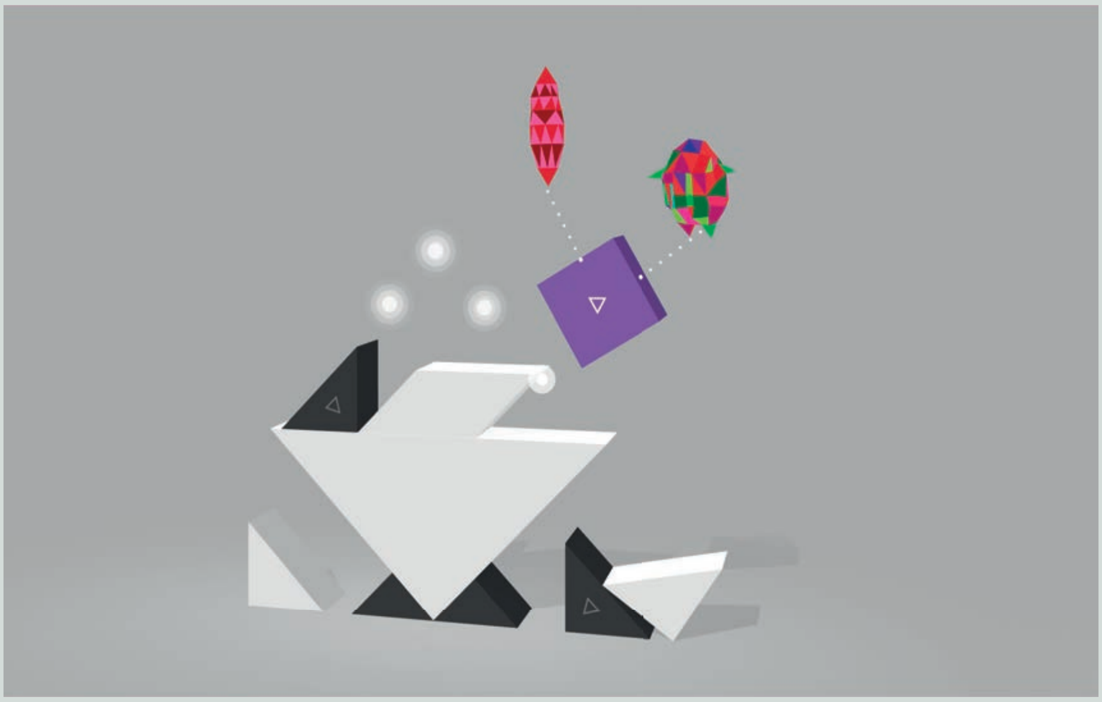

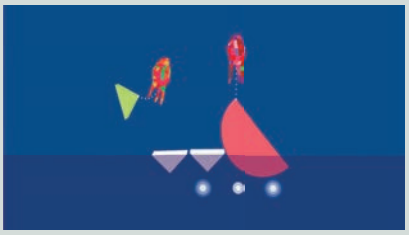

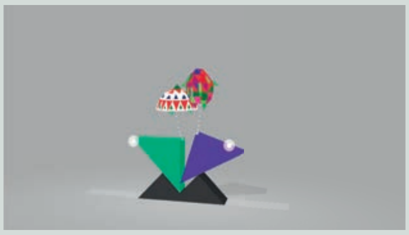

UNITY FOCUS

Bridging platforms with Dreii

Etter Studio explains how it plans to build on its mobile hit Dreii with a new console and desktop version

Mario von Rickenbach (above), lead game maker on puzzle game Dreii (main), says there are no real technical hurdles in making games playable between users across platforms

MINIMALIST BUT AMBITIOUS puzzle game *Dreii* began life as a concept title released back in 2013, and this year the unique project returns as a multi-format title with a difference.

The game's premise is simple: three players must work together to build a tower in a physics simulation that focuses on co-operation. The game translates a selection of carefully chosen words and commands into 19 different languages so that gamers from all over the world can play together.

"The idea of *Drei* came from [game director] Christian Etter, who had this social experiment in mind to build a game which unites people from all nations and throws physics-based puzzles at them," explains lead game maker Mario von Rickenbach.

"I think he likes the idea of physics being the only truly universal language that everybody understands across cultural differences. He then asked me if I would be interested in building this game together – that was about four years ago."

Von Rickenbach had already worked on a number of Unity projects before and was familiar with the technology's workflow, so recommended the game engine to the development team. Another key factor was the tech's cross-platform compatibility, enabling Etter to use the same code and assets for different platforms.

Given the nature of the puzzle game, Unity's integrated physics engine was instrumental for the development of a game like *Dreii*, but there were also other elements that von Rickenbach says were also invaluable when developing the title.

> ***"Just because software is easy to use doesn't mean it's easy to make a good game."***
>
> Mario von Rickenbach, Etter

"We were also working with the animation system and the new UI tools," he says. "Recently we switched to the new UNET Networking library because of its cross-platform capabilities."

For *Dreii*, 'cross-platform' means a lot more than just ports on different devices. Etter has actually managed to develop a game that can be played across the different platforms, enabling Android users to play co-operatively with PS4 and Wii U owners. Sounds implausible, right? Von Rickenbach says accomplishing such a feat like this was easier than you might think.

"Technically, there are no problems to do this," he explains. "For some reason, the platform holders are not always happy with it. Sony and Nintendo allowed us to let people play with each other, but Microsoft did not.

"That's why we chose not to release *Dreii* on Xbox until they allow players to play with people using consoles of other manufacturers.

"With UNET, Unity gives us all the required tools to create a cross-platform multiplayer game. We had to convert the old RakNet-based Networking to UNET to support all the platforms. While UNET is still a bit rough around the edges, it was possible to do it in a reasonable amount of time."

The finishing touches are still being added to *Dreii* before its release this autumn, and the Etter team encourage other Unity developers to explore unique and innovative concepts as they have with their upcoming project. But von Rickenbach adds a caveat to those dreaming of making quick money with the engine: the advantages afforded by this toolset are not enough to guarantee success.

He says: "Just because software is easy to use doesn't mean it's easy to make a good game." ■

Dreii
Developer: Etter Studio
Publisher: Etter Studio
Platform: iOS, Android, PS4, PC, Mac, Wii U
www.dreii.com

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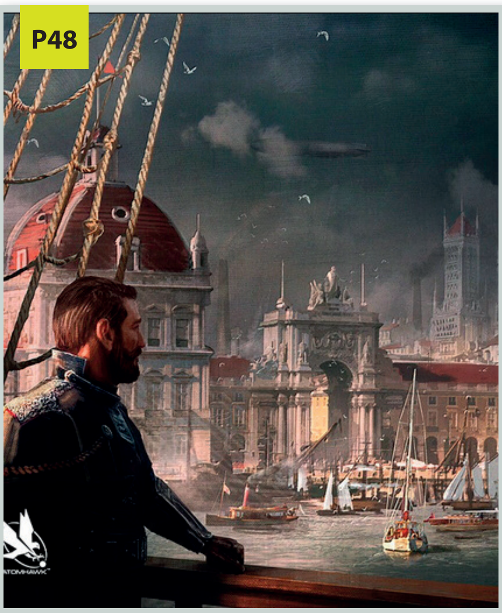

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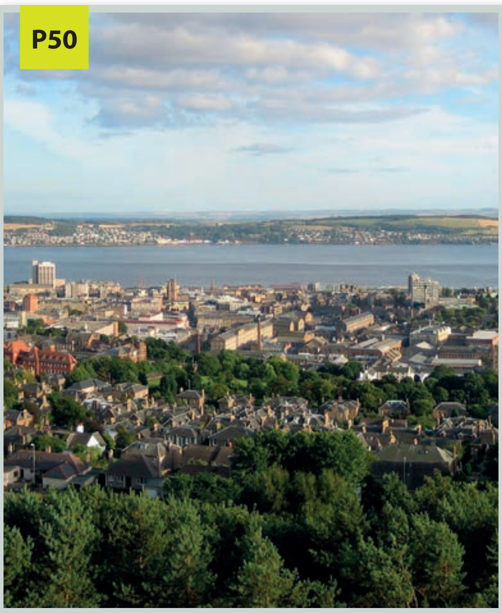

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ATOMHAWK IS KNOWN across the globe for its work in art outsourcing. Its services include concept and marketing art, motion graphics and user interface, as well as user experience design.

The studio works with developers during the concept and production stages of development, while its work with publishers can see it act as marketing assets creator or as creative consultant.

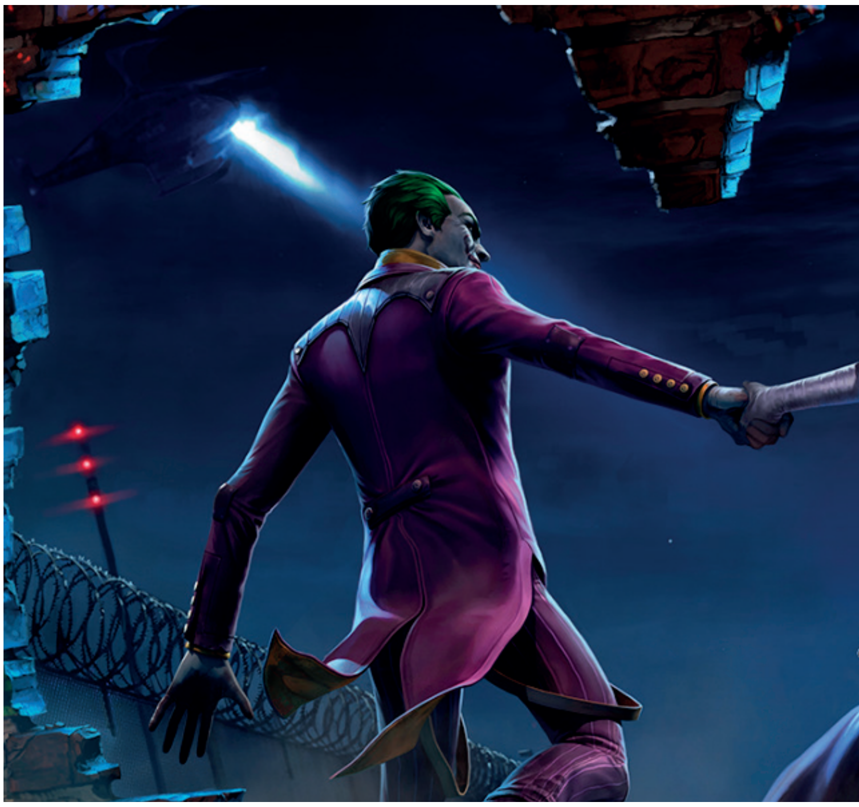
> ***In MKX, all our concepts began with initial sketches exploring a broad range of ideas.***
> Ron Ashtiani

During the last six years the company has worked on over 40 released games, with a number still at concept stage or currently in development. It has provided UI and UX design for titles such as *Resogun*, and *DMC: Devil May Cry*. It has also provided concept and marketing art for the likes of *Project Spark*, *Injustice: Gods Among Us* and the two most recent *Mortal Kombat* releases.

Explaining exactly what its work entailed in *Mortal Kombat X*, Atomhawk director Ron Ashtiani says it worked closely with developer NetherRealm during the earliest stages of the project to help create a new, more believable world for the IP. To this end, it created the concept art for fight line environments, props and new characters including Erron Black, Dark Raiden and Ninja Mime.

"All our concept ideas began with initial sketches exploring a broad range of ideas that we then iterated on, incorporating feedback from regular client reviews before moving to further detail and refinement and the supply of a final colour image," says Ashtiani.

"For some of the props and individual elements of the environment scenes we also created additional sketches to explore the proportions and how they would look from different perspectives. This step was particularly important in the case of *MKX* where environments are no



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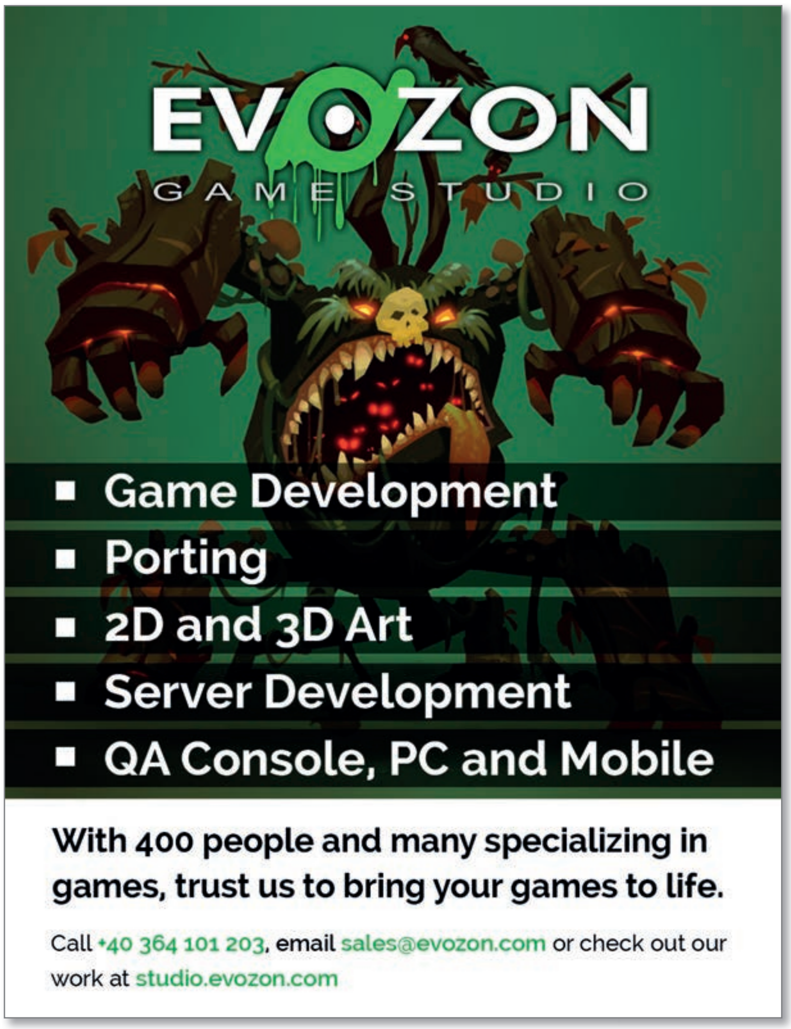

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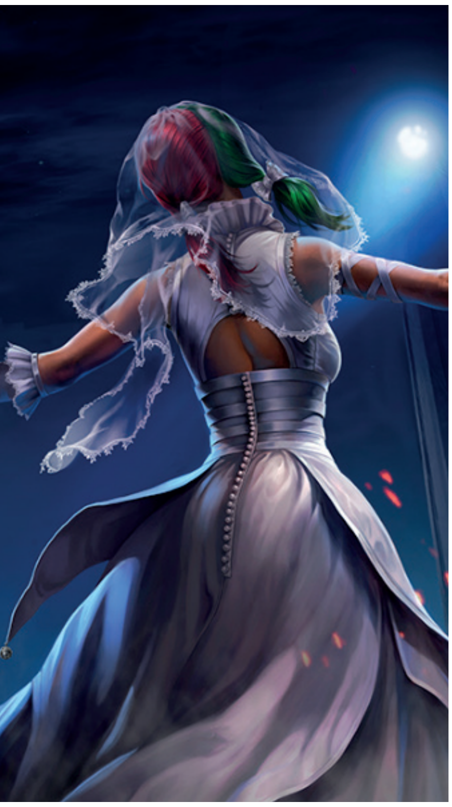

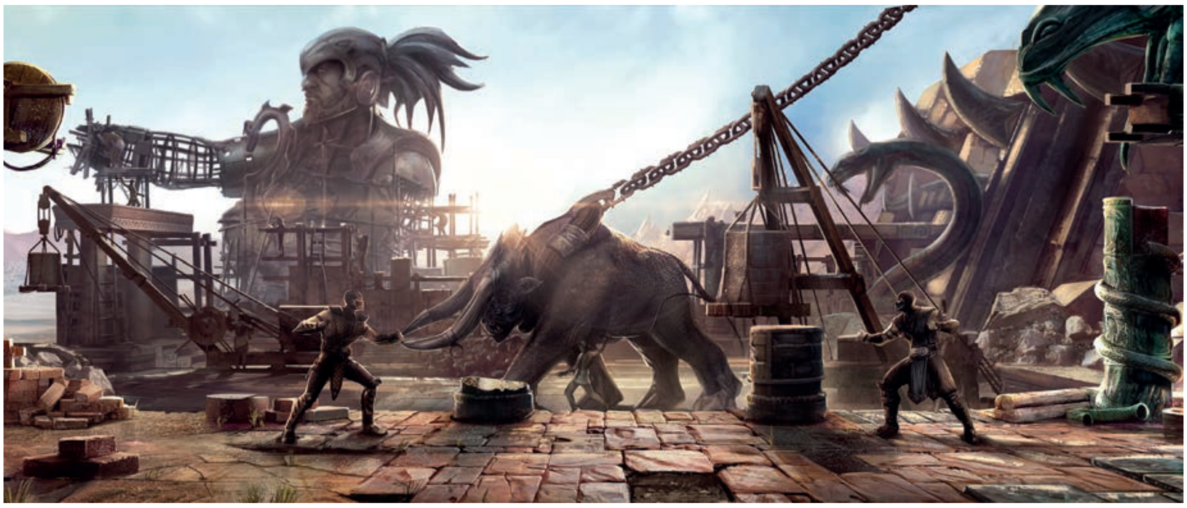

> **We believe that the game art concept process will move closer to the film model.**
>
> Ron Ashtiani

longer just a backdrop – they also contain objects that influence the fight.”

Ashtiani says using an external art studio in some cases can be beneficial to companies rather than recruiting internally, as it “doesn’t make sense” to keep hiring for new roles when they may only be needed short-term.

“We believe that in time the game art concept process will move closer and closer to the film production model where a production or product is the result of a collaboration of suppliers, with the ownership of the art direction being split between the developer and the creative partner,” he says.

As well as its Gateshead office, Atomhawk is currently in the process of launching a new London studio with the intention of expanding its client base in games as well as film and other digital industries. ■

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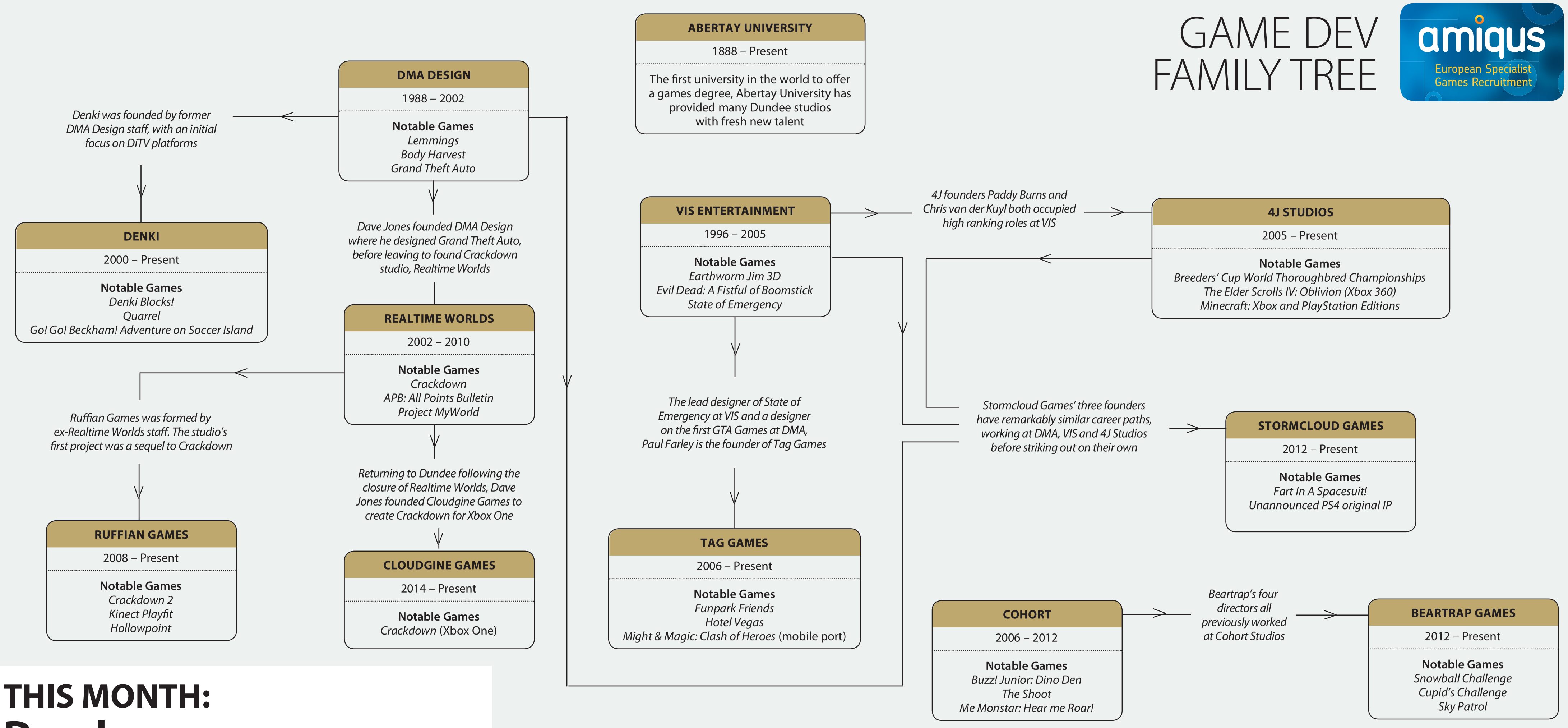

ABERTAY UNIVERSITY
1888 – Present
The first university in the world to offer a games degree, Abertay University has provided many Dundee studios with fresh new talent

DMA DESIGN
1988 – 2002
Notable Games
Lemmings
Body Harvest
Grand Theft Auto

Denki was founded by former DMA Design staff, with an initial focus on DiTV platforms

DENKI
2000 – Present
Notable Games
Denki Blocks!
Quarrel
Go! Go! Beckham! Adventure on Soccer Island

Dave Jones founded DMA Design where he designed Grand Theft Auto, before leaving to found Crackdown studio, Realtime Worlds

REALTIME WORLDS
2002 – 2010
Notable Games
Crackdown
APB: All Points Bulletin
Project MyWorld

Ruffian Games was formed by ex-Realtime Worlds staff. The studio's first project was a sequel to Crackdown

RUFFIAN GAMES
2008 – Present
Notable Games
Crackdown 2
Kinect Playfit
Hollowpoint

Returning to Dundee following the closure of Realtime Worlds, Dave Jones founded Cloudgine Games to create Crackdown for Xbox One

CLOUDGINE GAMES
2014 – Present
Notable Games
Crackdown (Xbox One)

VIS ENTERTAINMENT
1996 – 2005
Notable Games
Earthworm Jim 3D
Evil Dead: A Fistful of Boomstick
State of Emergency

The lead designer of State of Emergency at VIS and a designer on the first GTA Games at DMA, Paul Farley is the founder of Tag Games

TAG GAMES
2006 – Present
Notable Games
Funpark Friends
Hotel Vegas
Might & Magic: Clash of Heroes (mobile port)

4J founders Paddy Burns and Chris van der Kuyl both occupied high ranking roles at VIS

4J STUDIOS
2005 – Present
Notable Games
Breeders' Cup World Thoroughbred Championships
The Elder Scrolls IV: Oblivion (Xbox 360)
Minecraft: Xbox and PlayStation Editions

Stormcloud Games' three founders have remarkably similar career paths, working at DMA, VIS and 4J Studios before striking out on their own

STORMCLOUD GAMES
2012 – Present
Notable Games
Fart In A Spacesuit!
Unannounced PS4 original IP

COHORT
2006 – 2012
Notable Games
Buzz! Junior: Dino Den
The Shoot
Me Monstar: Hear me Roar!

Beartrap's four directors all previously worked at Cohort Studios

BEARTRAP GAMES
2012 – Present
Notable Games
Snowball Challenge
Cupid's Challenge
Sky Patrol

THIS MONTH: Dundee

Lee Bradley explores the Scottish games development hub that is the origin of some of the UK industry's most famous names

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Content Director
Andrew Wooden
awooden@nbmedia.com

Editor
James Batchelor
jbatchelor@nbmedia.com

Deputy Editor
Craig Chapple
cchapple@nbmedia.com

Contributing Editor
Will Freeman
wfreeman@nbmedia.com

Sales Manager
Jennie Lane
jlane@nbmedia.com

Sales Executive
Charlotte Nangle
cnangle@nbmedia.com

Designer
Nikki Hargreaves
nhargreaves@nbmedia.com

Production Executive
James Marinos
jmarinos@nbmedia.com

Contributors
Alex Calvin, Chris Dring, John Broomhall, Joost Schuur, Joost van Dreunen, Lee Bradley

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Editorial enquiries:

James Batchelor
jbatchelor@nbmedia.com
01992 535 646

Sponsorship and advertising:

Charlotte Nangle
cnangle@nbmedia.com
01992 535 647

Jennie Lane
jlane@nbmedia.com
01992 535 647

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